PROVINCIAL LAND USE PLAN OF KHYBER PAKHTUNKHWA

DISTRICT LAKKI MARWAT

Vol 01: Existing & Proposed Landuse

Deliverable 4: Draft Landuse Plan Report

The Urban Unit
Urban Sector Planning & Management Services Unit (Pvt.) Ltd.

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1.1 Introduction

1.1.1 Background

Khyber Pakhtunkhwa's population is growing at an annual rate of 2.89%[1], and at this pace, it is projected to double by 2042. This rapid growth will place significant pressure on the province's natural resources and public infrastructure, leading to challenges such as inefficient land use, the conversion of agricultural land for commercial and residential purposes, water scarcity, deforestation, and environmental degradation. To address these issues, comprehensive district-level land use planning is essential to ensure the sustainable and efficient management of resources for present and future generations.

Land use planning plays a pivotal role in shaping settlements' social and economic landscape by assessing future population size, structure, and distribution. It also serves as a strategic tool for guiding agricultural and industrial development. Recognizing its importance, the Government of Khyber Pakhtunkhwa has initiated the preparation of District Land Use Plans (DLUPs) for all districts of the province. To implement this initiative, the Provincial Land Use Plan Project (PLUP) and the Urban Policy and Planning Unit (UPPU) have awarded a consultancy contract through a competitive bidding process to the Urban Unit (Urban Sector Planning & Management Services Unit Pvt. Ltd. Lahore) for the preparation of land use plans of 22 districts.

The Land Use Plan for District Lakki Marwat is a comprehensive and evidence-based planning document. This plan is a strategic framework to guide future growth by developing a comprehensive approach to land use and spatial planning in response to rapid population growth, urban expansion, and unregulated land conversion. Utilizing both primary and secondary data sources, the planning process involved household surveys, transportation and land use surveys, and stakeholder consultations. The plan proposes land use zoning, new urban areas to optimize land use, and minimize conflicts between residential, commercial, agricultural, and industrial land use. It emphasizes protecting ecologically sensitive areas through evidence-based planning. The plan incorporates legal mechanisms, institutional roles, and regulatory guidelines to support its execution at the district level.

Furthermore, The Land Use Plan will help to induce a sustainable development, optimize exploitation of land and physical resources, enhancing provincial income, increase overall activity and balanced distribution of infrastructure and services. The Land Use Plan will be a tool to provide guidance to Provincial Government, Urban Policy Unit and TMAs for undertaking integrated and coherent development programs.

Based on many studies, District Land Use Plan deals with efficient placement of broad, District-level Land Use and zoning for the sustainable growth of a District as a whole. It differs from the urban structure plans in many ways. A District can have more than one urban area and hundreds of villages and the District Plan have to consider these all. Besides, the nature of Land Uses at District level is not commonly found in an urban area, such as large-scale agriculture, rangeland, forestry, livestock, fishery etc. As against District Plan, the focus in urban plans is identification of issues and solutions for Central Business District, neighborhood planning, urban municipal services etc.

1.1.2 Objectives

Land use planning in Khyber Pakhtunkhwa focuses on documenting and allocating land for future needs, using evidence-based approaches. It promotes integrated, multi-sectoral development and aims to resolve land conflicts among individuals and institutions. The plan emphasizes efficient land use and the preservation of ecologically and culturally important areas, supporting food security and sustainability. The below **Figure** shows the objectives of the land use planning.

[1] *6th Population Census & Housing Census 2017, Pakistan Bureau of Statistics, Government of Pakistan.*

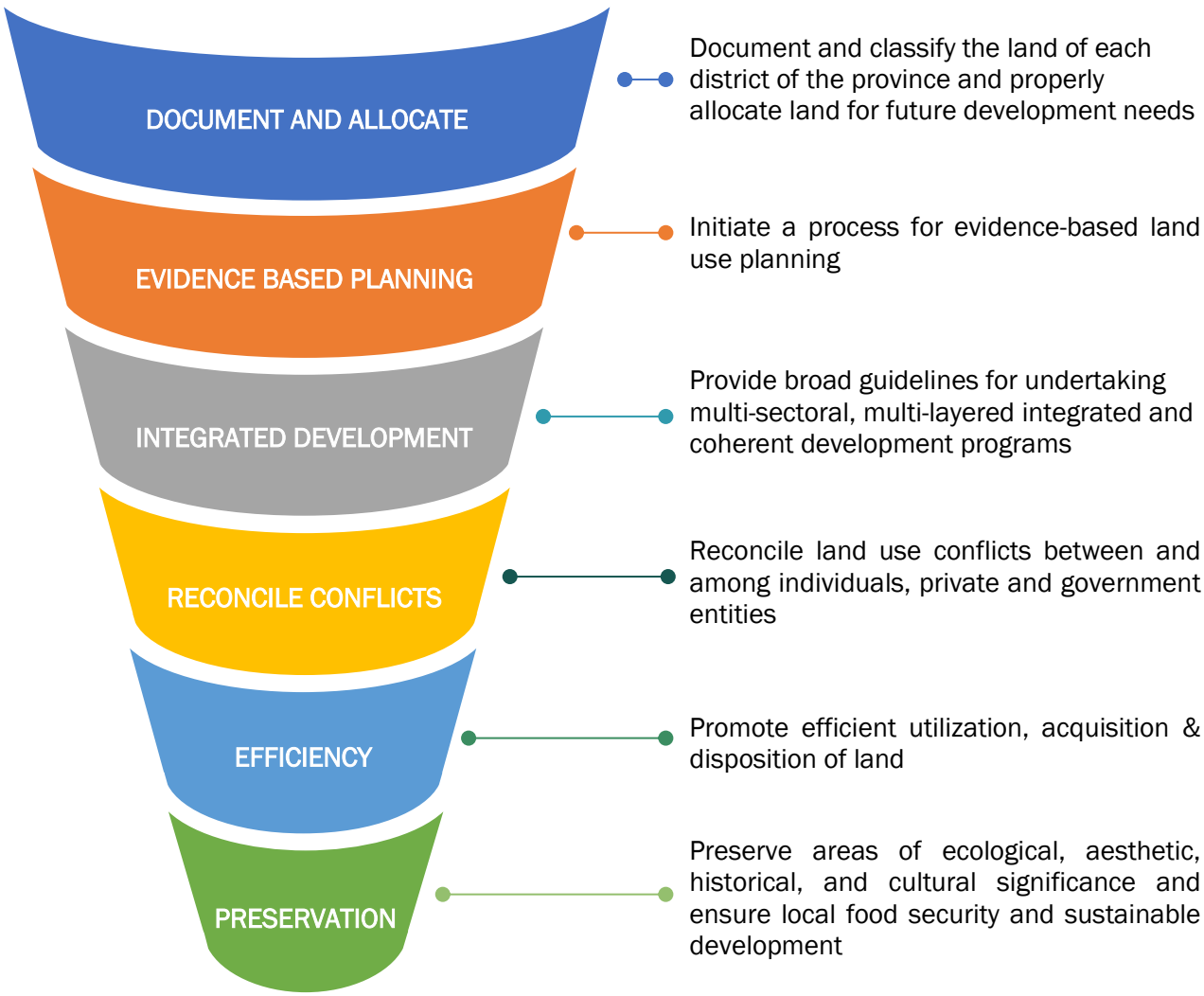


Figure 1-1: Objectives of the Study

1.1.3 Land Use Planning Process

Land use planning is believed to be holistic in nature that rely on a detailed study of the project area and a thorough and critical analysis of data, as well as responsive to the growing needs of the diversifying population. The consultant maintains that effective land use planning promotes sustainable development by simultaneously transforming the physical landscape and strengthening economic foundations. The balance between economic growth and environmental protection may not be achieved solely through the land use plans prepared by technical expertise of consultant only rather it requires participation of Government entities, and all relevant stakeholders in the process. The preparation process of the District Land Use Plan is classified into 09 steps presented in **Figure** below.

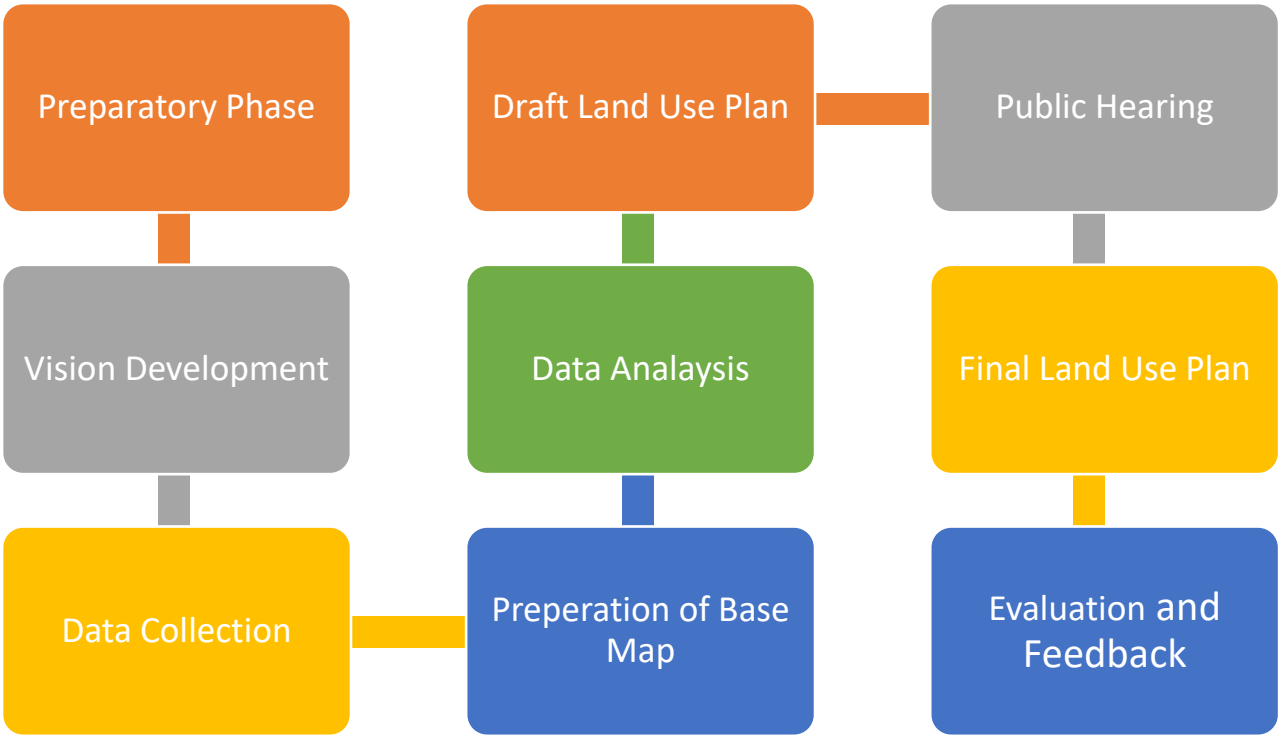


Figure 1-2: Stepwise Project Process

1.1.4 Project Methodology

The planning process for the District Land Use Plan follows a structured and phased approach. It begins with the Preparatory Phase, where the consultant reviews the Terms of Reference (TORs), finalizes the methodology, and Key stakeholders were identified, and reviews their involvement at different stages of the project. This was followed by Vision Development, in which a collective vision for the district was formulated through focus group discussions and (FG), stakeholder workshops.

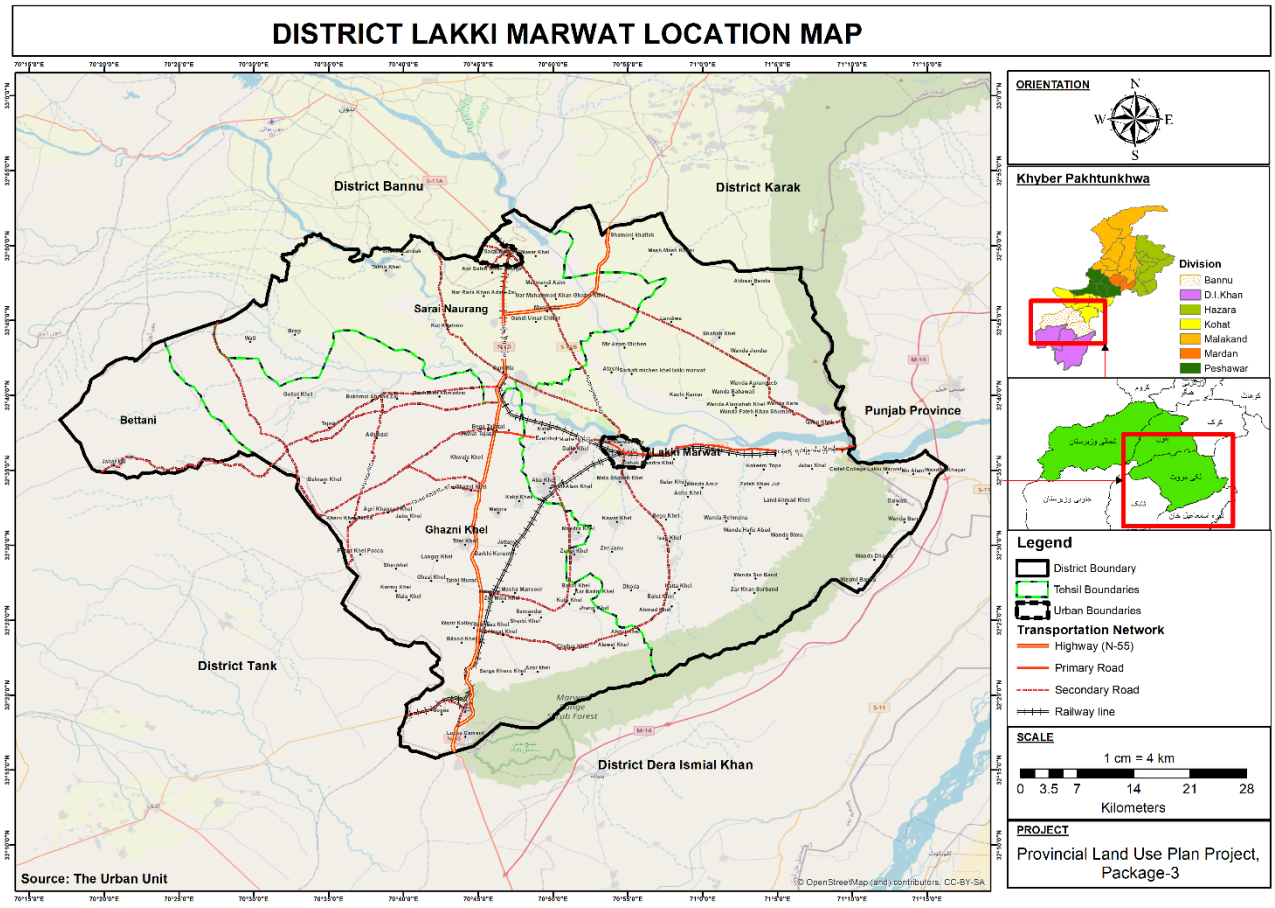
The next step, Data Collection, involved gathering both primary and secondary data across multiple sectors, including housing, transport, environment, and Land use surveys. Using this data, the team proceeded with the Preparation of Base Maps and GIS-based spatial classification to visualize existing land use patterns. These components fed into a comprehensive Data Analysis phase, where socio-economic trends, land utilization patterns, and urbanization dynamics were evaluated.

Based on these insights, the Draft Land Use Plan was prepared, outlining zoning proposals, infrastructure distribution, and regulatory frameworks. The consultant will conduct a public hearing immediately after the draft land use plan is prepared to solicit feedback from stakeholders and the general public. The input gathered during the hearing will be carefully reviewed and incorporated where necessary to refine the final land use plan. The final land use plan will be approved by the Land Use and Building Control Council and will be handed over to the district administration for implementation and execution.

1.1.5 Project Area

District Lakki Marwat is located in the southern part of Khyber Pakhtunkhwa. It borders the district of Karak and Bannu to the north, the Tank district to the west, the Dera Ismail Khan district to the south, and the Mianwali district of Punjab to the east.

The total area of District Lakki Marwat is **3398.93** square kilometers. District Lakki Marwat has been divided into four tehsils (Lakki Marwat, Bettani, Ghazni Khel, Sarai Naurang), including 02 urban areas (Lakki Marwat and Sarae Naurang). Location of the District is illustrated in the **Map** below:



Map 1-1: Location Map of the District Lakki Marwat

1.2 Vision Development

Vision development is crucial in land use planning as it provides a clear, long-term direction for sustainable growth and development. The aim of the Vision Development activity was to identify the concerns and suggestions of the general public and all stakeholders in order to create a collective vision for achieving sustainable development through improved allocation and use of land in the district. Vision development for the project area was contingent upon the results of the reconnaissance survey, particularly on the feedback provided by the local community. The Vision Development exercise helped in bringing together a shared vision for the community. The vision described how the project area would look physically, socially, and environmentally in the short and long term. The vision development and stakeholder consultation served as a foundation for formulating a vision statement for each district. It helps communities, stakeholders, and policymakers establish shared goals, ensuring that land is utilized efficiently to balance economic, social, and environmental needs.

1.2.1 Key Findings

The vision development exercise for District Lakki Marwat highlights its vast reserves of coal, gypsum, limestone, oil, gas, and other minerals, along with notable tourism potential. However, road infrastructure is deteriorated, water scarcity and salinity are major issues, and the district lacks adequate health, education, and electricity facilities. A fragile law-and-order situation further hampers development. Unregulated growth has led to haphazard development, and without proper policies, future exploitation of natural resources is likely. Yet, with sound policies and guidelines, the district holds promise for sustainable development. The people of Lakki Marwat aspire to boost the economy by tapping into hydrocarbon industries and expanding industrial activity, supported by improved public services, road upgrades, and water management systems. They envision sustainable growth that safeguards natural resources.

The district offers opportunities for investors, which can be realized by providing infrastructure and a favorable environment for industry. Its soil is ideal for Ber and olive cultivation, making afforestation a key strategy for environmental and economic resilience. Transparency in the use of royalty funds and civil works is essential for public trust. With strong governance and community support, Lakki Marwat can transform into a model of balanced and inclusive growth.

1.2.2 Vision Statement

Visions created from focus group discussions with the general public and the consultative workshop with the district administration and stakeholders were blended into a single vision statement for Lakki Marwat, which is provided below:

"A provincial food basket with optimal living standards"

1.2.2.1 Goals

Based on the Vision's statement, the goals have been derived for the Lakki Marwat Land Use plan.

Goal 1: To preserve agricultural land
Goal 2: To improve living standards for the residents
Goal 3: To promote compatibility of land uses and industrial development

1.2.2.2 Objectives

Based on the goals derived in the above section, the following objectives are formulated.

1. *Identify and prioritize agricultural land-use zones.*
2. *Regulate the conversion of agricultural land use to other land uses.*
3. *Allocate adequate space for improved delivery of public services*
4. *Ensure a sustained water supply by providing land for the potential water reservoirs and rainwater harvesting.*
5. *Enhance accessibility in the urban areas and mobility for the efficient movement of people and goods.*
6. *Provide adequate space for active and passive recreational facilities and cultural activities.*
7. *Strike a balance between residential, commercial, and industrial land uses.*
8. *Set up industrial zones to support local industries: food-processing industry, minerals, oil and gas, and cottage industry.*

1.3 Physical Characteristics of the District

1.3.1 Climate

District Lakki Marwat experiences a semi-arid climate marked by hot summers, mild winters, and distinct seasonal variations in temperature, rainfall, wind, and humidity. From 1979 to 2024, climate data shows peak temperatures in May–June, with rainfall concentrated in July–August due to the monsoon. Wind speeds remain moderate year-round, while humidity varies seasonally, peaking in August. The detail analysis of climate for District Lakki Marwat is as follows.

1.3.1.1 Temperature Pattern

The temperature profile of District Lakki Marwat from 1979 to 2024 reveals a clear seasonal pattern typical of semi-arid regions. Temperatures begin to rise steadily from January, with the mean daily maximum increasing from 17°C to a peak of 39°C in June, while the mean daily minimum rises from 6°C to 28°C, over the same period. May and June are the hottest months, characterized by intense summer heat. In contrast, December and January are the coldest months, with minimum temperatures dropping to 8°C and 6°C, respectively. After June, both maximum and minimum temperatures gradually decline, following a consistent annual cycle. This long-term temperature trend is vital for informing land-use

planning in the district, particularly regarding agriculture, irrigation scheduling, water resource management, and human comfort.

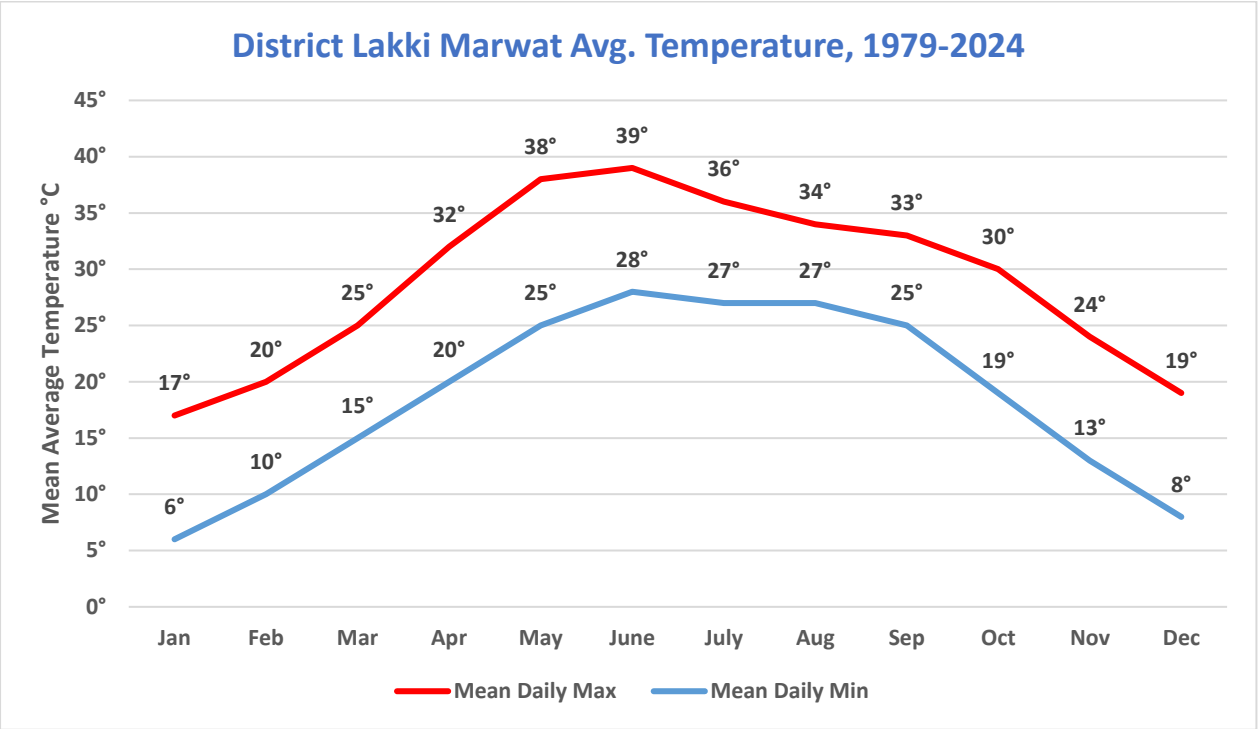


Figure 1-3: Annual Mean Average Temperature[2]

1.3.2 Rainfall

District Lakki Marwat reveals a highly seasonal rainfall pattern from 1979 to 2024, with the majority of precipitation occurring during the monsoon months of July and August, which receive 219 mm and 205 mm of rain, respectively. These two months account for a significant portion of the annual rainfall, reflecting the influence of the South Asian monsoon system. Precipitation is relatively moderate in the early spring months, with March and April receiving 75 mm and 57 mm, while the winter and late autumn months (October to December) experience minimal rainfall, with values dropping as low as 14 mm in December. This trend and uneven rainfall throughout the year have important implications for agriculture, water resource planning, and drought resilience in the region.

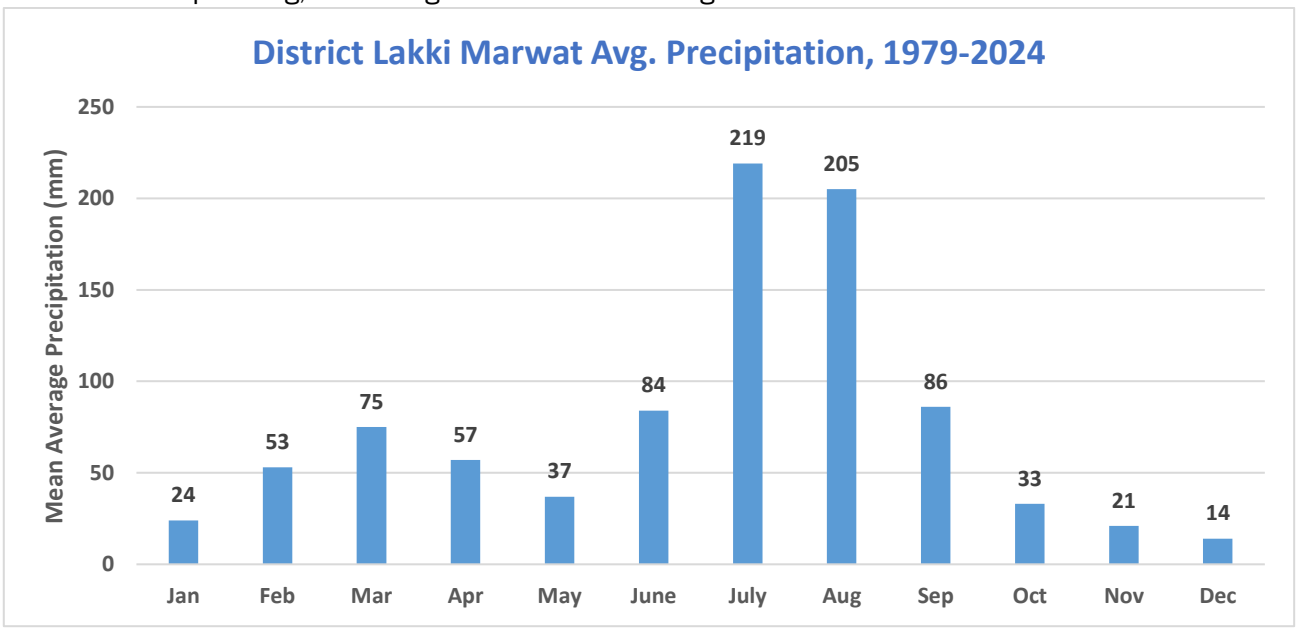


Figure 1-4: District Lakki Marwat Mean Average Precipitation[3]

4 https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/lakki_pakistan_1172339
5 https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/lakki_pakistan_1172339

1.3.3 Wind-Direction

The wind rose diagram for District Lakki Marwat, based on ERA5T model data, shows that prevailing winds predominantly come from the north and northwest (N, NNW, NW) throughout the year. Most wind speeds fall in the 5–10 km/h and 10–20 km/h ranges, represented in medium and light green, with occasional higher speeds (20–30 km/h, in dark green) from the same directions. Very low (<2 km/h) and very high (>30 km/h) wind speeds are rare. This consistent wind pattern has practical implications for land use planning. Building orientation in settlements can leverage prevailing winds for better natural ventilation. The steady directional flow also suggests potential for small-scale wind energy development, especially in open areas with northern exposure.

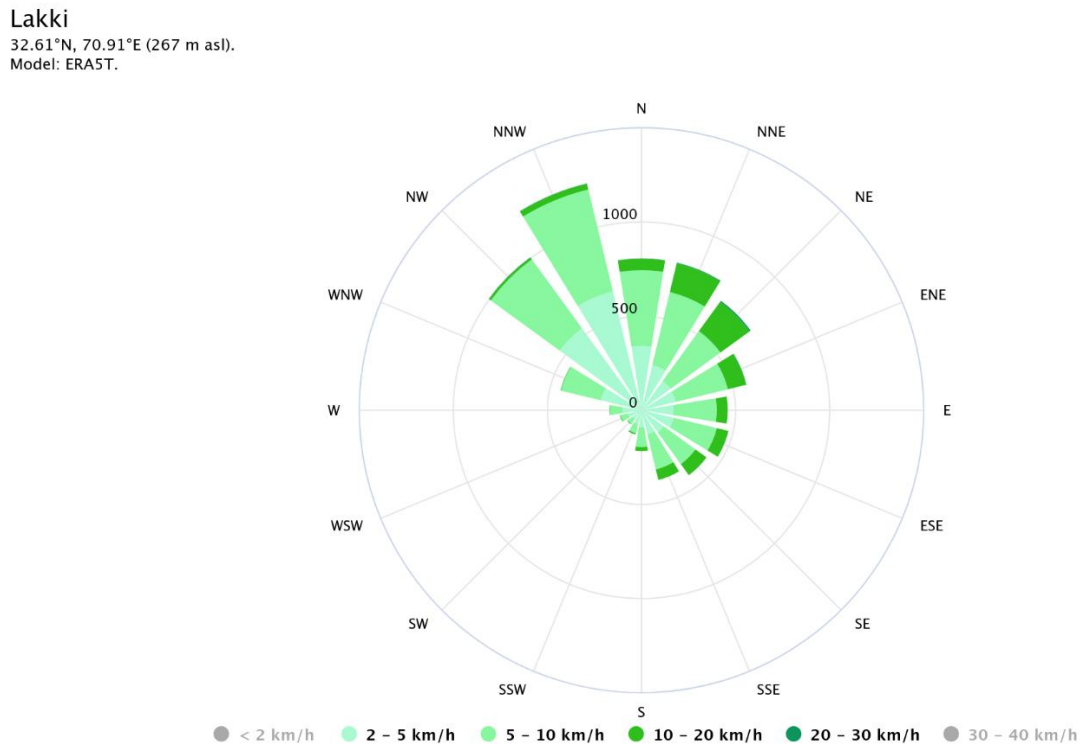
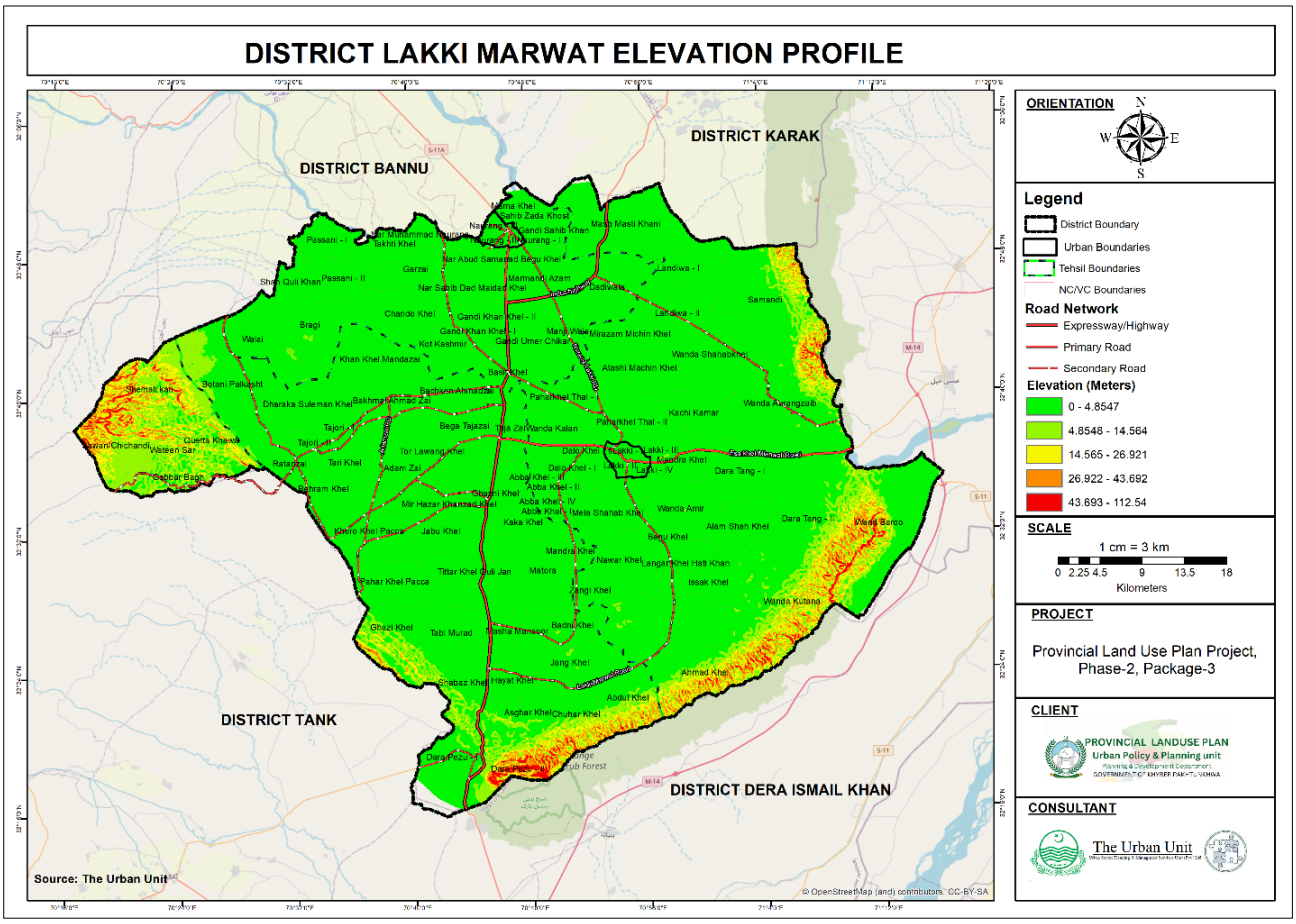


Figure 1-5: Wind Rose Diagram of District Lakki Marwat.[4]

1.3.4 Elevation

The elevation profile of District Lakki Marwat provides a comprehensive view of the district's topography, essential for informed land use planning. The majority of the district falls within the lower elevation bands, ranging from 0 to approximately 112.54 meters, indicating largely flat terrain, which dominates the central and northern parts of Lakki Marwat. These low-lying areas, shown in varying shades of green, are suitable for agriculture, settlement expansion, and infrastructure development. Higher elevation zones, marked in yellow, orange, and red, are concentrated in the western, southern, and southeastern fringes of the district. These elevated regions, reaching up to 112.54 meters, are more rugged and may be less favorable for intensive agriculture, but can support forest cover, rangelands, and conservation zones. This elevation profile serves as a foundational layer for determining suitable land uses based on terrain suitability, risk of erosion, and water runoff patterns, ultimately supporting sustainable and resilient development in District Lakki Marwat.

[4] *https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/lakki_pakistan_1172339*

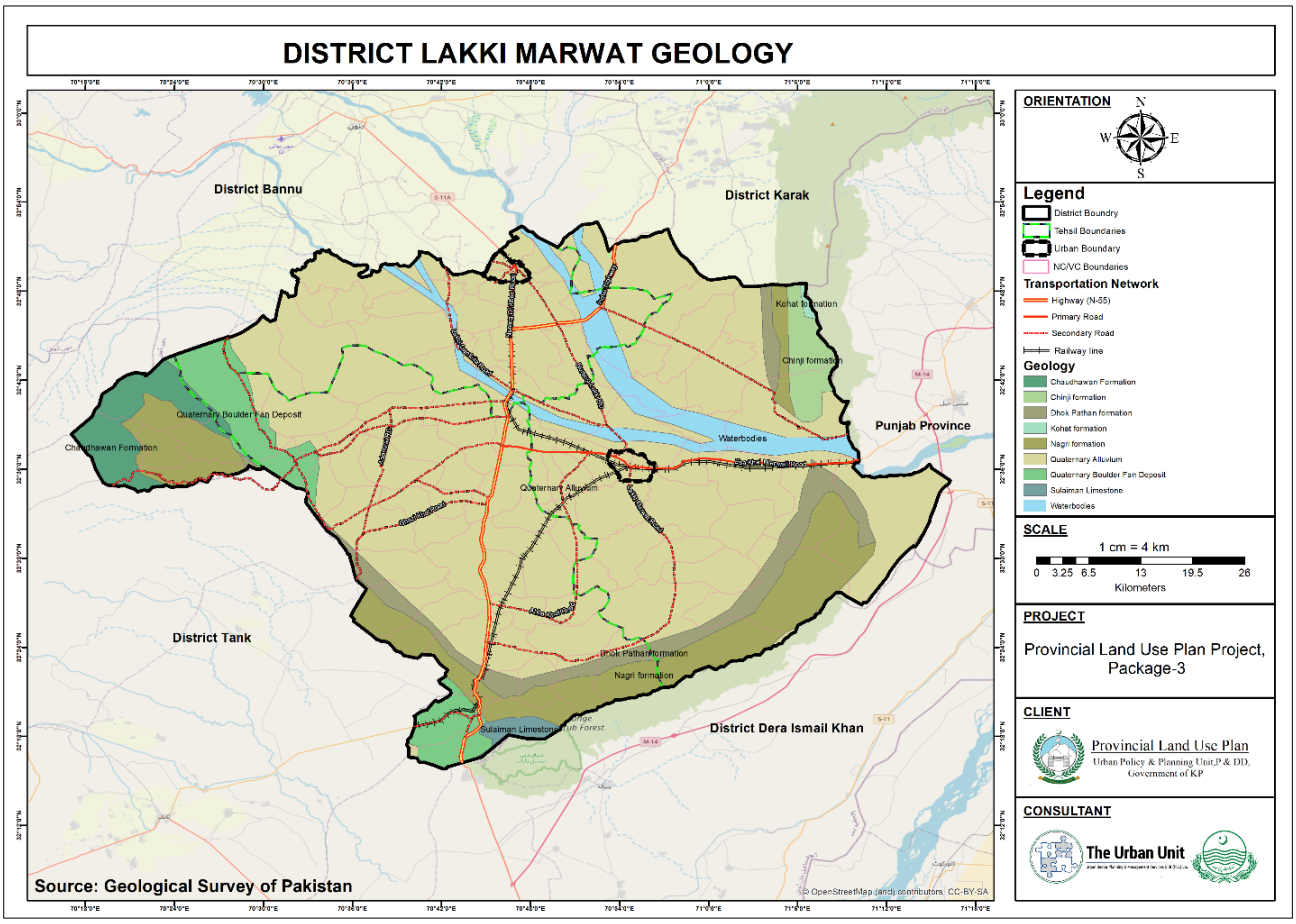


Map 1-2: District Lakki Marwat Elevation Profile

1.3.5 Geology

The geological map of District Lakki Marwat highlights its diverse formations and lithological units. Quaternary Alluvium dominates the central and southern parts, forming fertile depositional plains ideal for agriculture and settlement. The Sulaiman Limestone and Chashma Formation in the southeastern and western uplands indicate stable conditions suitable for limestone and gypsum extraction. The Chamalang Formation along the western fringes contains coal-bearing strata, underscoring the district's mineral potential. In the south, Boulder Fan Deposits reflect active fluvial and erosional processes, emphasizing the need for careful land use, flood control, and soil conservation.

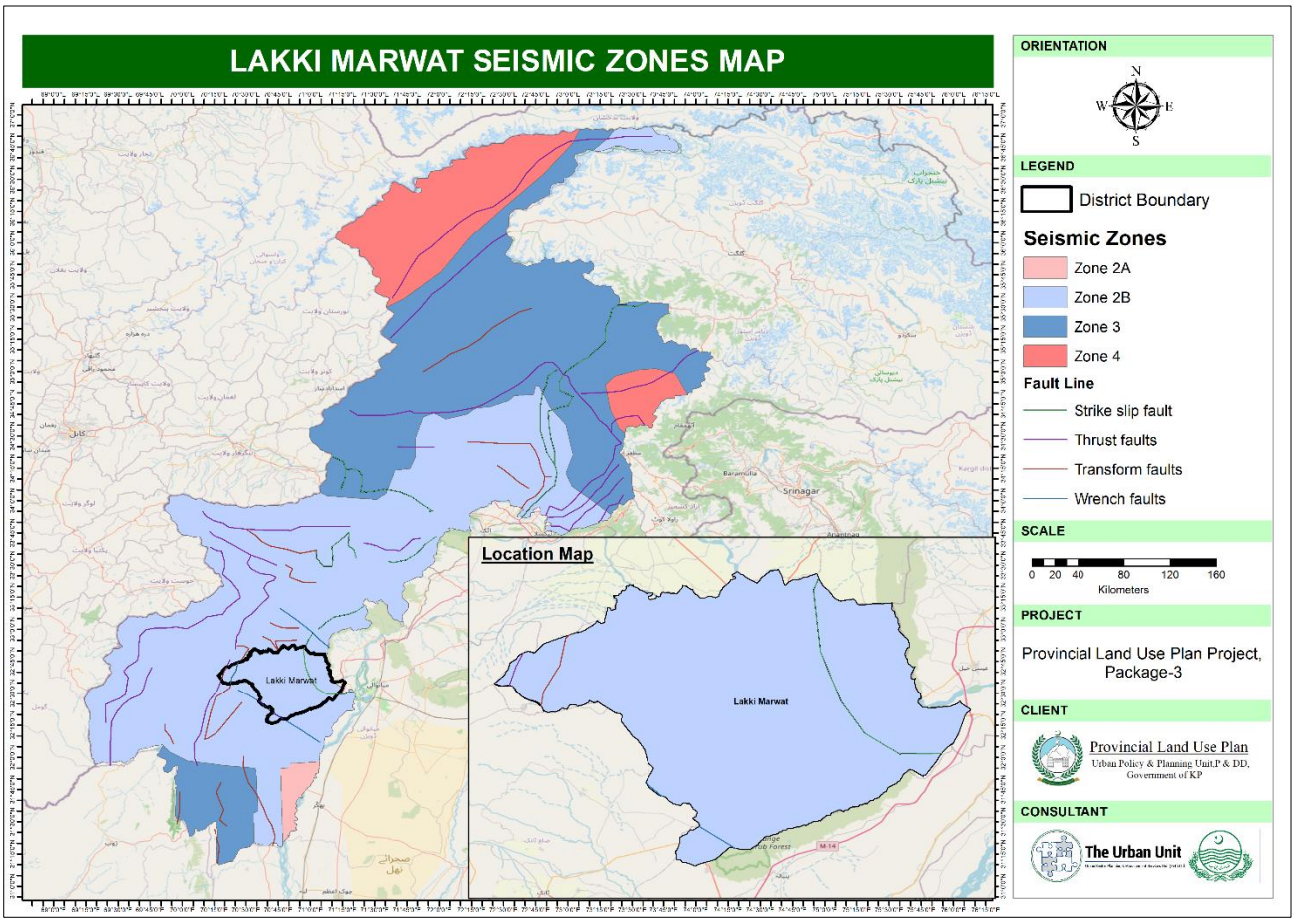
This geological classification is overlaid with district and tehsil boundaries, road networks, and major water bodies, making it a valuable tool for informed decision-making. It supports planning for sustainable mineral extraction, hazard risk assessment, agricultural zoning, and infrastructure development, while also ensuring the environmental integrity and economic viability of land use in District Lakki Marwat.



Map 1-3: Geological Formation of the District Lakki Marwat

1.3.6 Seismic Condition

The Lakki Marwat Seismic Zones highlights the district's classification primarily within Seismic Zone 2B, indicating a moderate risk of earthquakes, The below **Map** also identifies major fault lines, including strike-slip, thrust, transform, and wrench faults, revealing tectonic activity in the region.



Map 1-4: Seismology of District Lakki Marwat

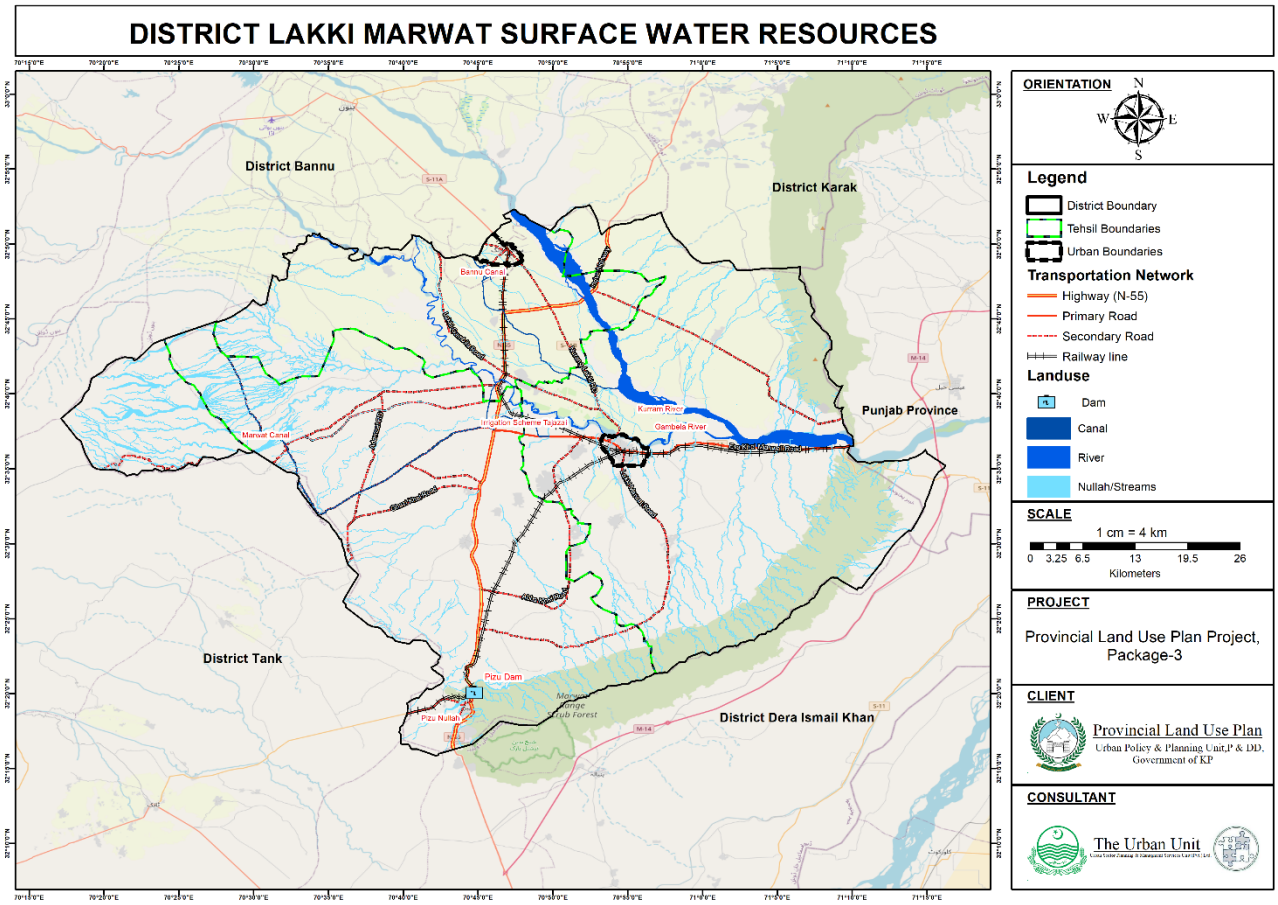
1.3.7 Hydrology

District Lakki Marwat, located in the southern part of Khyber Pakhtunkhwa, relies heavily on its irrigation systems for agricultural productivity. The district's irrigation infrastructure is supported primarily by canals and small streams fed by the river flowing through the region. One of the key sources of irrigation is the **Gambila River (Tochi River)** and **Kurram River**, which are crucial for sustaining agriculture in the surrounding plains.

1.3.8 Surface Water Resources

Groundwater is the primary source of drinking water in Lakki Marwat district extracted through tube wells in the form of small schemes spread throughout the district. The discharge capacity of these tube well-based schemes is dependent on the groundwater potential of the area which varies across the district. Good potential is available along the Kurram River floodplains near Lakki Marwat city, which benefit from alluvial deposits that enhance groundwater recharge. The situation is however dire in the northern and western parts of the district, where rugged terrain and hard rock formations limit the groundwater potential due to limited aquifer permeability.

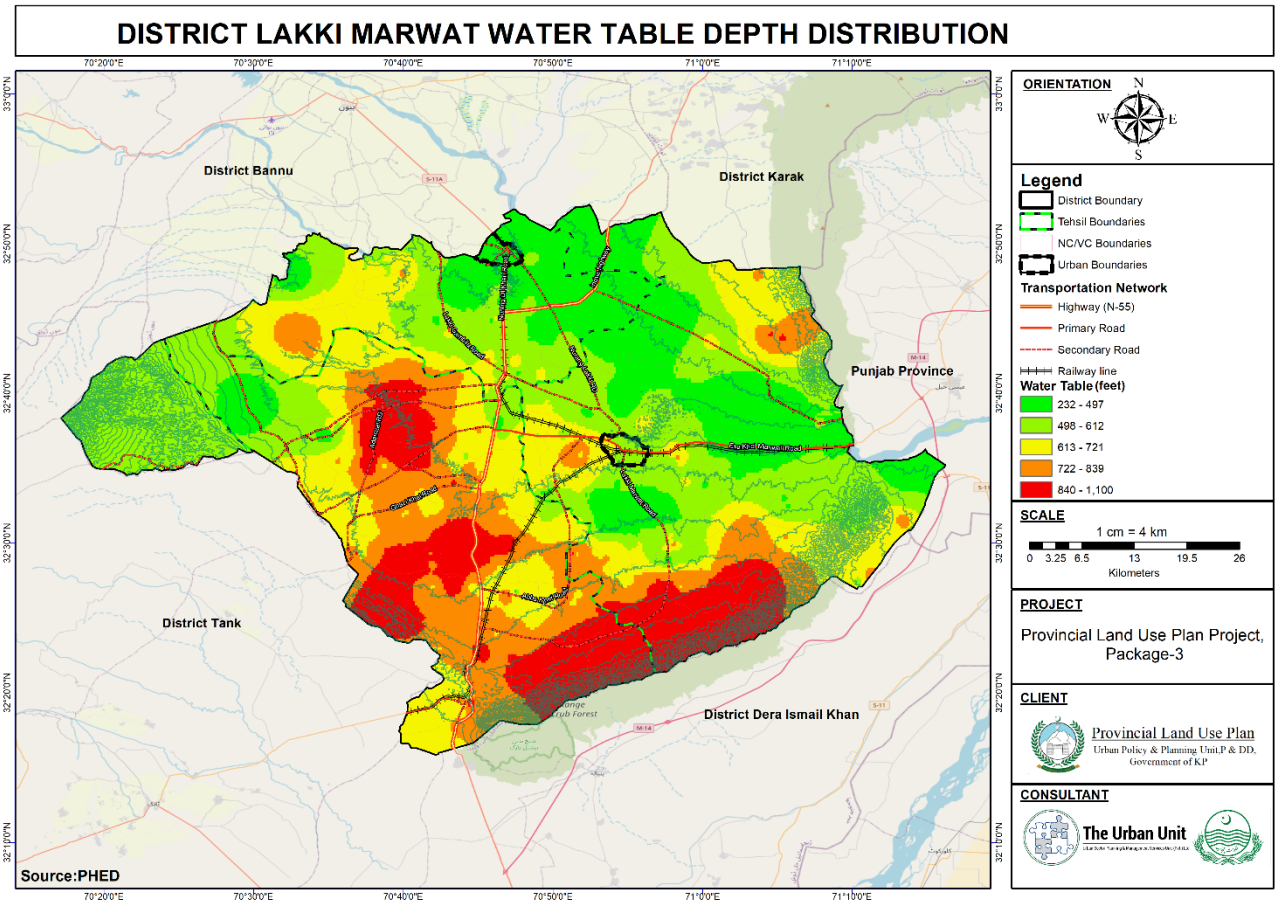
The surface water sources in Lakki Marwat include notable water bodies such as the Kurram River, which flows along the district boundary. The Gambila River, which passes through neighboring Bannu, also impacts the region's hydrology as it feeds into the Kurram River near Lakki Marwat. Several smaller seasonal streams contribute surface runoff to these major rivers, especially during rainstorms.



Map 1-5: Surface Water Resources in Lakki Marwat District

1.3.9 Water Table

The District Lakki Marwat Water Table Depth Distribution Map, based on PHED data, highlights significant variations in groundwater availability across the district. Northern and northeastern areas show shallow water tables (232–497 feet), making them suitable for agriculture and development. Central regions have moderate depths (498–721 feet), requiring efficient water use, while southern and southwestern areas have deeper tables (722–1,100 feet), posing challenges for water access. These variations call for tailored planning strategies, favoring development in areas with easier groundwater access and promoting water conservation in regions with deeper water tables. This data is crucial for guiding sustainable land use decisions in the district.



Map 1-6: Water Table Depth Distribution

1.4 Socio-Economic Profile

1.4.1 Population Distribution

According to the 2023 Population Census, District Lakki Marwat had a total population of 1,040,856, with 103,089 in urban areas and 937,767 in rural areas. From 1951 to 1981, only one urban center, the Lakki Marwat Municipal Committee, was recognized. By 1998, the Sarai Naurang Town Committee was also classified as urban. The rural population is divided into four areas: Lakki Marwat Tehsil (524,206), Sarai Naurang Tehsil (301,487), Ghazni Khel which was previously included in Tehsil Lakki Marwat has a population of 329,775 and the merged area (Frontier Region Lakki Marwat) now Tehsil Bettani with 35,571 people.

The population distribution is summarized in the **Table** and shown in the **Figure** below.

Table 1-1: District Lakki Marwat Population Distribution[5]

Administrative Area	1951	1961	1972	1981	1998	2017	2023
District Urban	8,634	9,451	14,359	18,755	46,878	89,420	103089
District Rural	76,150	108,867	175,745	249,069	393,607	813,121	937767
District Overall	84,784	118,318	190,104	267,824	440,485	902,541	1040856
Urban Proportion	10%	8%	8%	7%	11%	10%	9.9%
Urban Areas							
Lakki Marwat Municipal Committee	8,634	9,451	14,359	18,755	30,467	59,465	70759
Sarai Naurang Town Committee	-	-	-	-	16,411	29,955	32330

[5] *Pakistan Bureau of Statistics. District Lakki Marwat-Final Results of Sixth Population and Housing Census-2023. Table-1: Area, Population by Sex, Sex Ratio, Population Density, Urban Proportion, Household Size and Annual Growth Rate.*

Rural Areas							
Tehsil Lakki Marwat	42,588	65,679	97,839	148,047	250,312	524,206	341693
Tehsil Sarai Naurang	33,562	43,188	64,802	84,873	136,308	262,556	301487
Tehsil Ghazni Khel	-	-	-	-	-	-	329775
Tehsil Bettani	-	-	13,104	16,149	6,987	26,359	35571

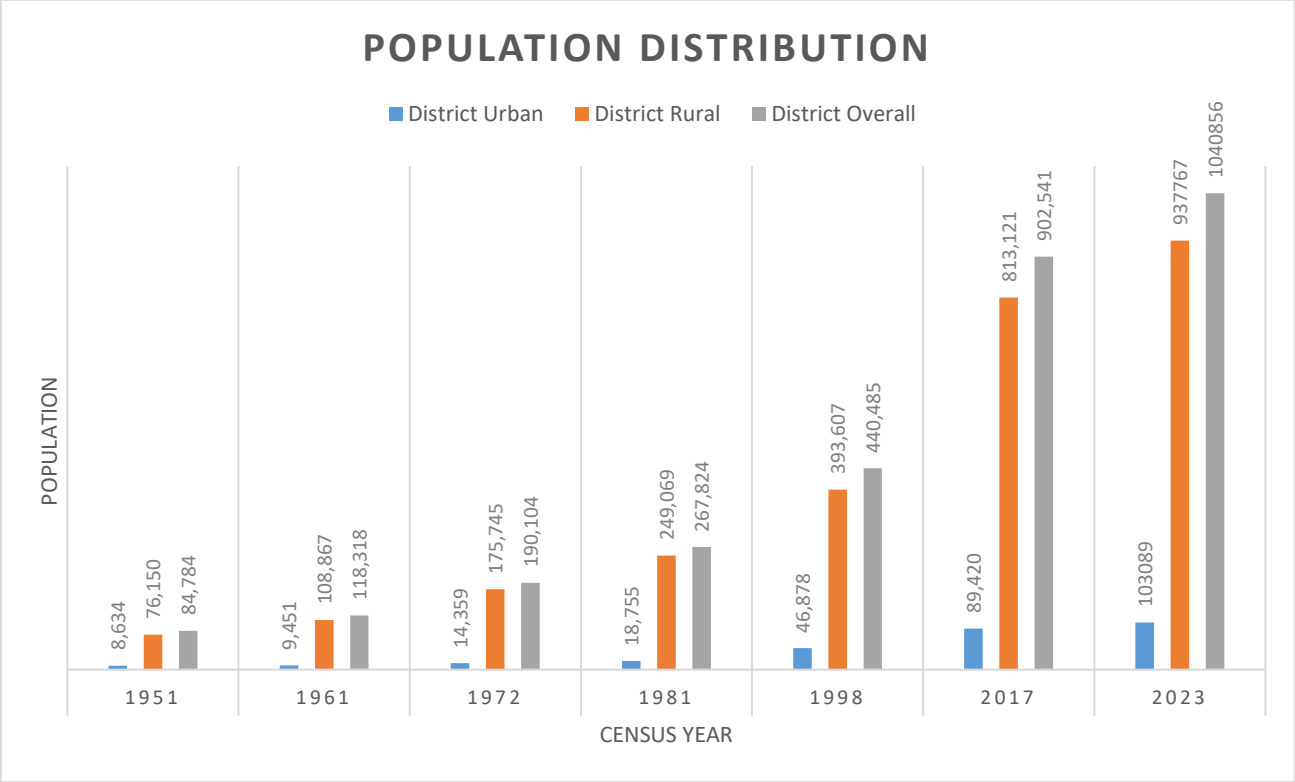


Figure 1-6: District Lakki Marwat Population Distribution - Historical Perspective

1.4.2 Age and Sex Wise Population Distribution

A district where more than 40% of the population is below the age of 15 years is a "youthful population district".[6] District Lakki Marwat qualifies as a "youthful population district," with 46.55% of its population under 15 and 65.38% under 25. Among males, 48.34% are under 15 and 66.81% under 25; for females, the figures are 44.73% and 63.94%, respectively. This large youth population indicates rapid population growth, especially in rural areas, and suggests rising future demand for jobs and public services. The high dependency ratio also poses significant economic challenges.

The details of District Lakki Marwat's age and sex-wise population distribution are given in the **Table** and graphically represented in the **Figure** below.

Table 1-2: District Lakki Marwat Age and Sex Wise Population Distribution[7]

Age (Years)	Male	Female	Transgender	Total
4 and below	17.63%	17.93%	0.00%	17.78%
05-09	15.36%	15.53%	0.00%	15.45%
10-14	12.21%	12.28%	7.69%	12.24%
15-19	9.95%	9.97%	53.85%	9.96%
20-24	8.11%	8.24%	30.77%	8.17%

[6] *Multi-Donor Support Unit (MSU). 2000. District Population Profile: Operationalizing and Interpreting*
[7] *Pakistan Bureau of Statistics. District Lakki Marwat-Final Results of Seventh Population and Housing Census-2023. Table-4: Population by Single Year Age, Sex and Rural/Urban*

Age (Years)	Male	Female	Transgender	Total
25-29	7.02%	7.35%	0.00%	7.19%
30-34	5.98%	6.67%	0.00%	6.32%
35-39	5.23%	4.99%	0.00%	5.11%
40-44	4.22%	4.21%	0.00%	4.21%
45-49	3.31%	3.26%	0.00%	3.28%
50-54	2.85%	2.84%	0.00%	2.85%
55-59	2.41%	2.19%	0.00%	2.30%
60-64	2.07%	1.81%	0.00%	1.94%
65-69	1.54%	1.17%	0.00%	1.36%
70-74	1.10%	0.82%	7.69%	0.96%
75 and above	1.00%	0.74%	0.00%	0.87%
All Ages	100%	100%	100%	100%

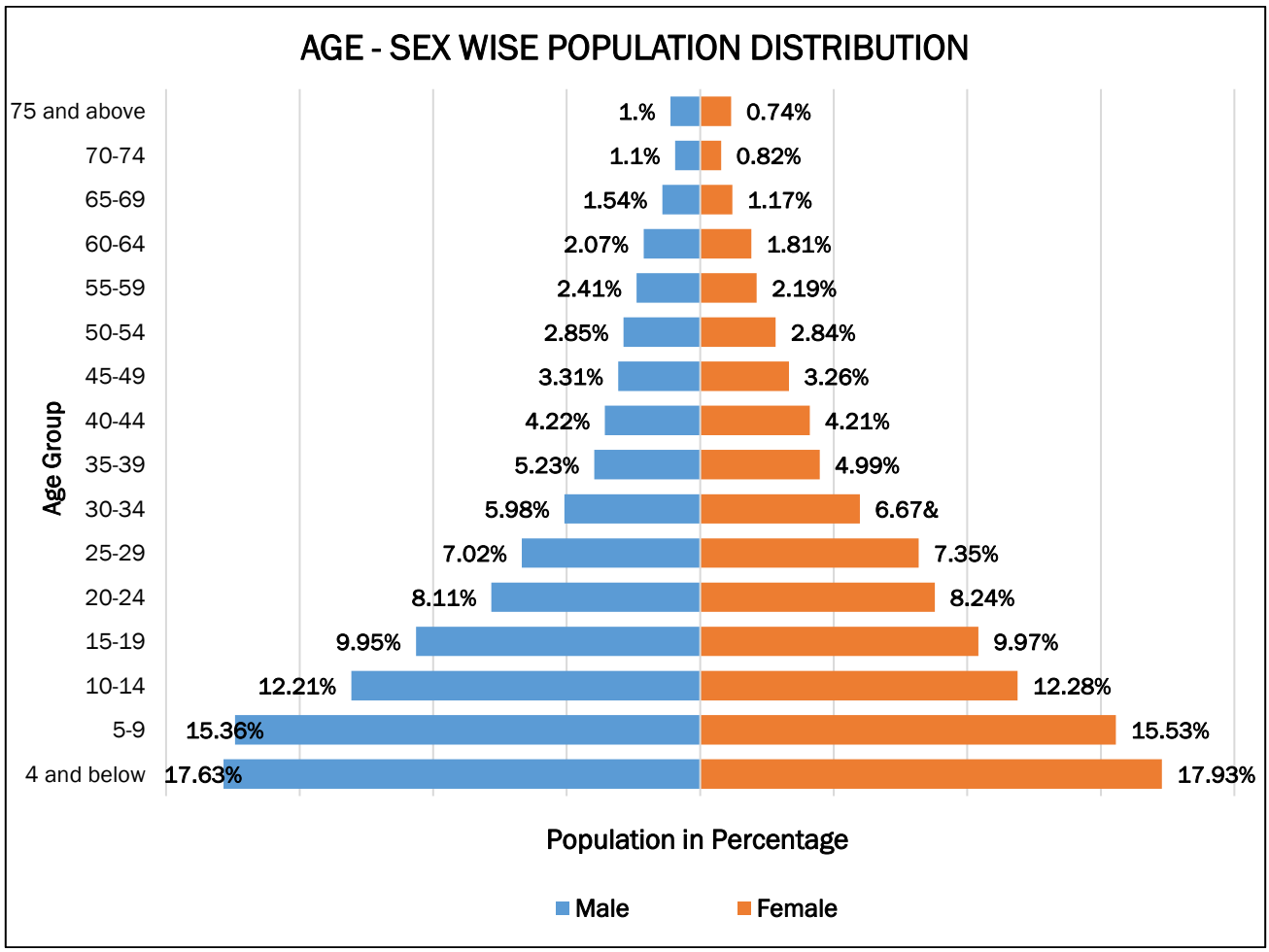


Figure 1-7: District Lakki Marwat Age and Sex-Wise Population Distribution

1.4.3 Population Density

Population density, the number of people per unit area, is vital in urban planning. It guides resource allocation, infrastructure development, and land use design. High density can lead to congestion and pressure on services, while balanced density supports sustainable, livable cities.

The consultant has calculated the population density by dividing the total population by its land area. The formula for calculating population density is:

$$\textbf{\textit{Population Density}} = \frac{\textbf{\textit{Total Population}}}{\textbf{\textit{Land Area in sq.km.}}}$$

According to the population census of Pakistan, the population density of District Lakki Marwat and Khyber Pakhtunkhwa from 1951 to 2017 has been increasing at a similar pace. However, the density of Khyber Pakhtunkhwa was fairly higher than the density of District Lakki Marwat.

Since 1951, the population density of District Lakki Marwat has increased at a pace similar to that of Khyber Pakhtunkhwa, though it has remained lower overall. In the 2017 census, the population density of District Lakki Marwat and Khyber Pakhtunkhwa was 273.83 and 409.40 persons per square kilometer, respectively, which was double the density of the 1998 census.

Table 1-3: District Lakki Marwat Population Density Compared with Province[8]

Administrative Area	District Lakki Marwat		Khyber Pakhtunkhwa	
	Population	Density	Population	Density
1951	117,612	35.68	4,556,545	61.14
1961	153,126	46.46	5,730,991	76.90
1972	238,633	72.40	8,388,551	112.57
1981	304,908	92.51	11,061,328	148.43
1998	497,012	150.79	17,743,645	238.10
2017	902,541	273.83	30,508,920	409.40
2023	1,040,856	315.79	40,856,097	401.57

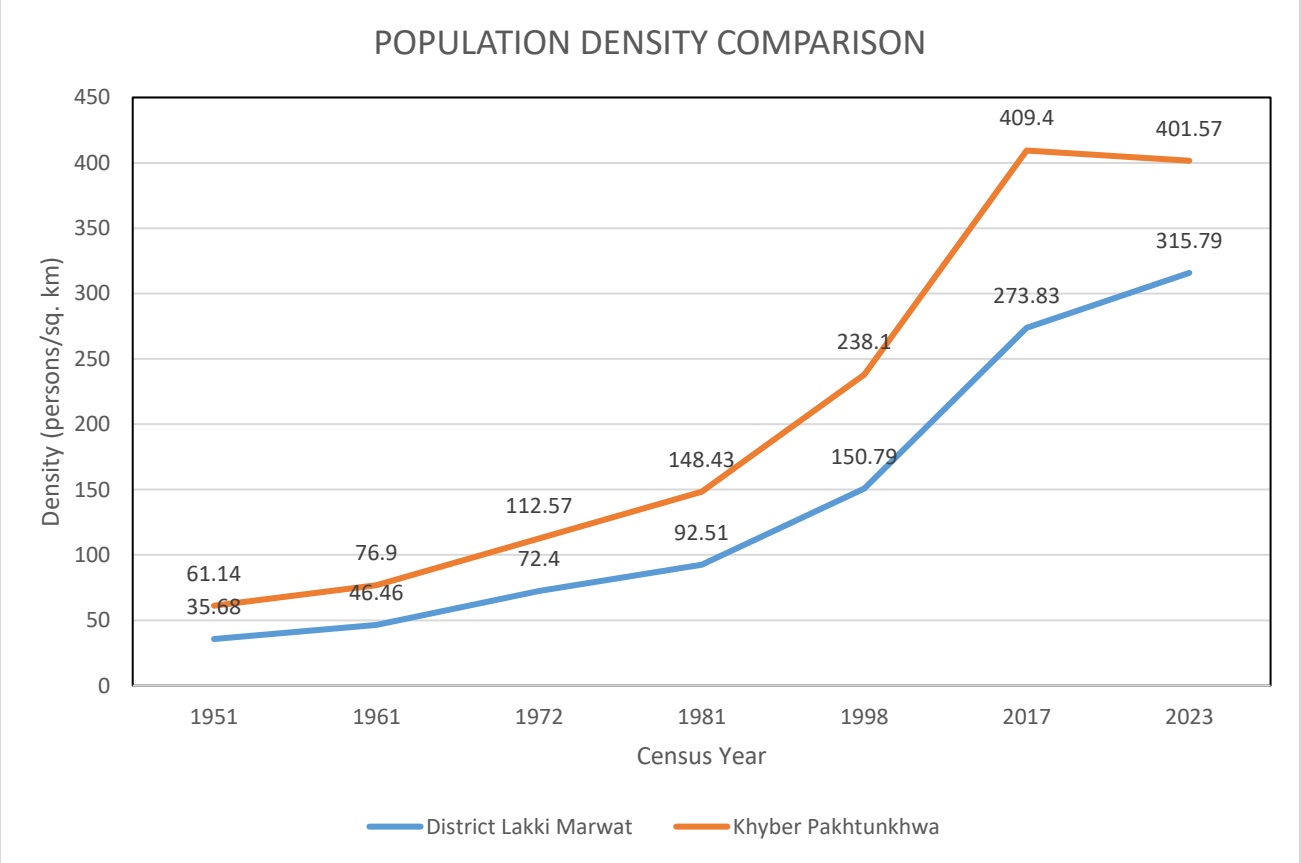


Figure 1-8: District Lakki Marwat Population Density Comparison with KP Province

1.4.4 Migration

The analysis of migration patterns in District Lakki Marwat is based on the Labor Force Survey (2020-2021) conducted by the Pakistan Bureau of Statistics. The survey's microdata provides detailed responses, which are used to determine in-migration and out-migration statistics.

For in-migration, individuals who have moved to District Lakki Marwat and have not lived there since birth are identified. The main reasons for their migration are analyzed based on survey responses. Similarly,

[8] *Pakistan Bureau of Statistics. (April, 2021). District Lakki Marwat-Final Results of Sixth Population and Housing Census-2017. Table-1: Area, Population by Sex, Sex Ratio, Population Density, Urban Proportion, Household Size and Annual Growth Rate.*

out-migration trends are assessed by identifying former residents of Lakki Marwat and their current place of residence. The data also helps distinguish between rural and urban migration patterns.

1.4.4.1 Reason for migrations

Migration trends in District Lakki Marwat, mainly rural-to-rural, are driven by security, family relocation, and return to home areas. In-migration stands at 80.28% and out-migration at 96.43%. These shifts impact housing demand, infrastructure, and agricultural land use, highlighting the need for responsive land use planning.[9]

1.4.5 Employment

The Employment section is essential in the district land use plan as it helps align land allocation with the population's employment trends. Understanding occupational patterns ensures better planning for economic zones, infrastructure, and resource distribution based on actual livelihood needs. The consultant has also calculated the employment of residents of District Lakki Marwat, using data from the Labor Force Survey.

According to the Labour Force Survey (LFS) 2021, the overall employment level in District Lakki Marwat is 45.45%, meaning less than half of the employment-age population is employed. Specifically, 10.45% of the employed population work as laborers, 10.32% are in the business sector, and 7.86% are government employees. The remaining employed individuals work in various other sectors. A significant portion of the population, 54.55%, is unemployed.

The details of employment in District Lakki Marwat are given in the **Table** and shown in the **Figure** below.

Table 1-4: District Lakki Marwat Employment Details[10]

Administrative Area	Agriculture	Business-Trade	Govt. Job	Labor	Private Job	Transport	Unemployed	Other	Total Working Force
HIS 2023	4.16%	10.32%	7.86 %	10.45 %	5.89 %	5.36%	54.55%	1.41 %	100%
LFS 2020	14.37%	6.93%	3.74 %	8.12%	4.20 %	3.47%	59.17%	-	100%

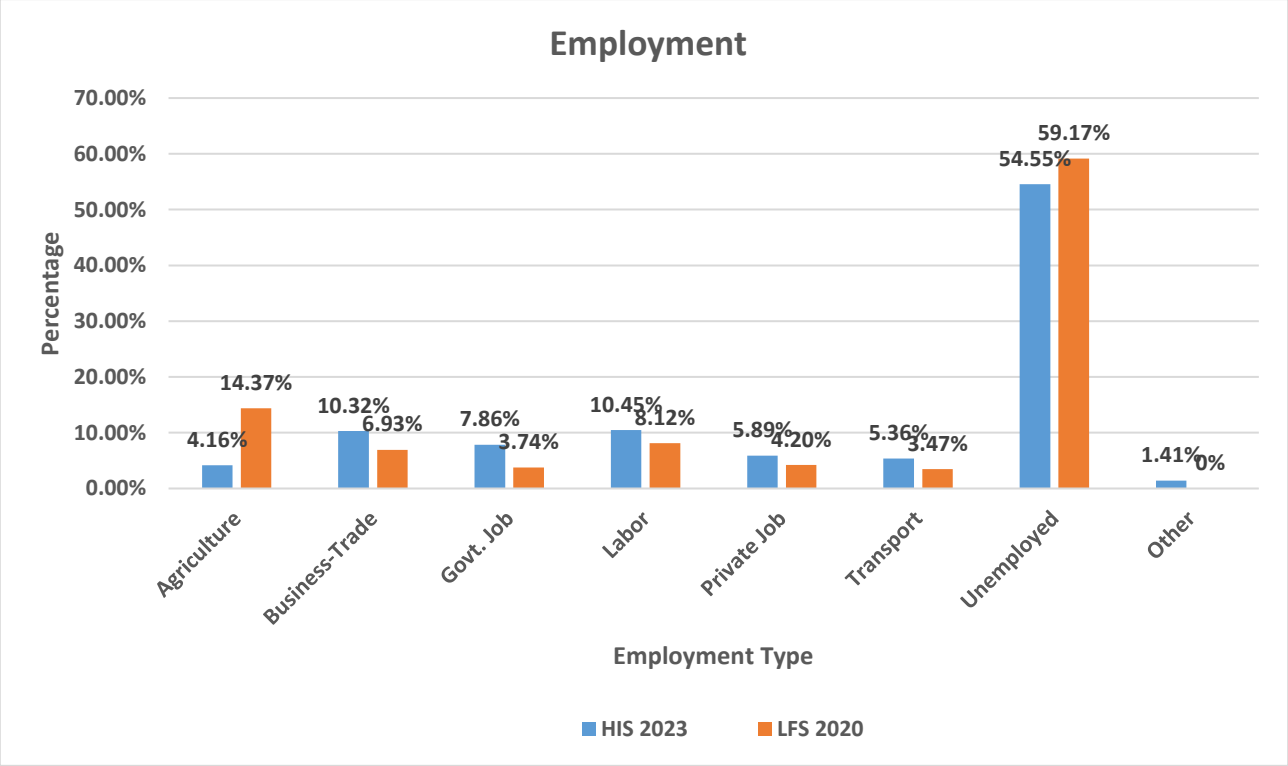


Figure 1-9: District Lakki Marwat Employment Details

[9] *Pakistan Bureau of Statistics. (March, 2022). Pakistan Labour Force Survey 2020-2021. Micro Data*
[10] *Calculated from the Labor Force Survey 2020-2021.*

1.4.6 Literacy Ratio

A comparison of literacy data for District Lakki Marwat shows inconsistencies across sources, highlighting both progress and challenges. The 2017 Census reports a 43.41% overall literacy rate (males 66.27%, females 20.95%), the HIS shows 62.03% overall (males 76.97%, females 35.78%), the PSLM reports 53% overall (males 75%, females 29%) while the LFS 2020 depicts 50.7% (males 72.35%, females 29.1%). This is due to variations in methodology and data collection periods, but such discrepancies stress the importance of using multiple data sources for informed planning and signal areas where focused interventions can further reduce gender disparities in literacy. The details of Literacy rates in District Lakki Marwat are given in the **Table** and shown in the **Figure** below.

Table 1-5: District Lakki Marwat Literacy Ratio Details

Source	Male	Female	Overall
Census 2023	67.36%	28.95%	48.47%
HIS 2023	76.97%	35.78%	62.03%
PSLM 2019	82%	29%	57%
LFS 2020	72.35%	29.1%	50.7%

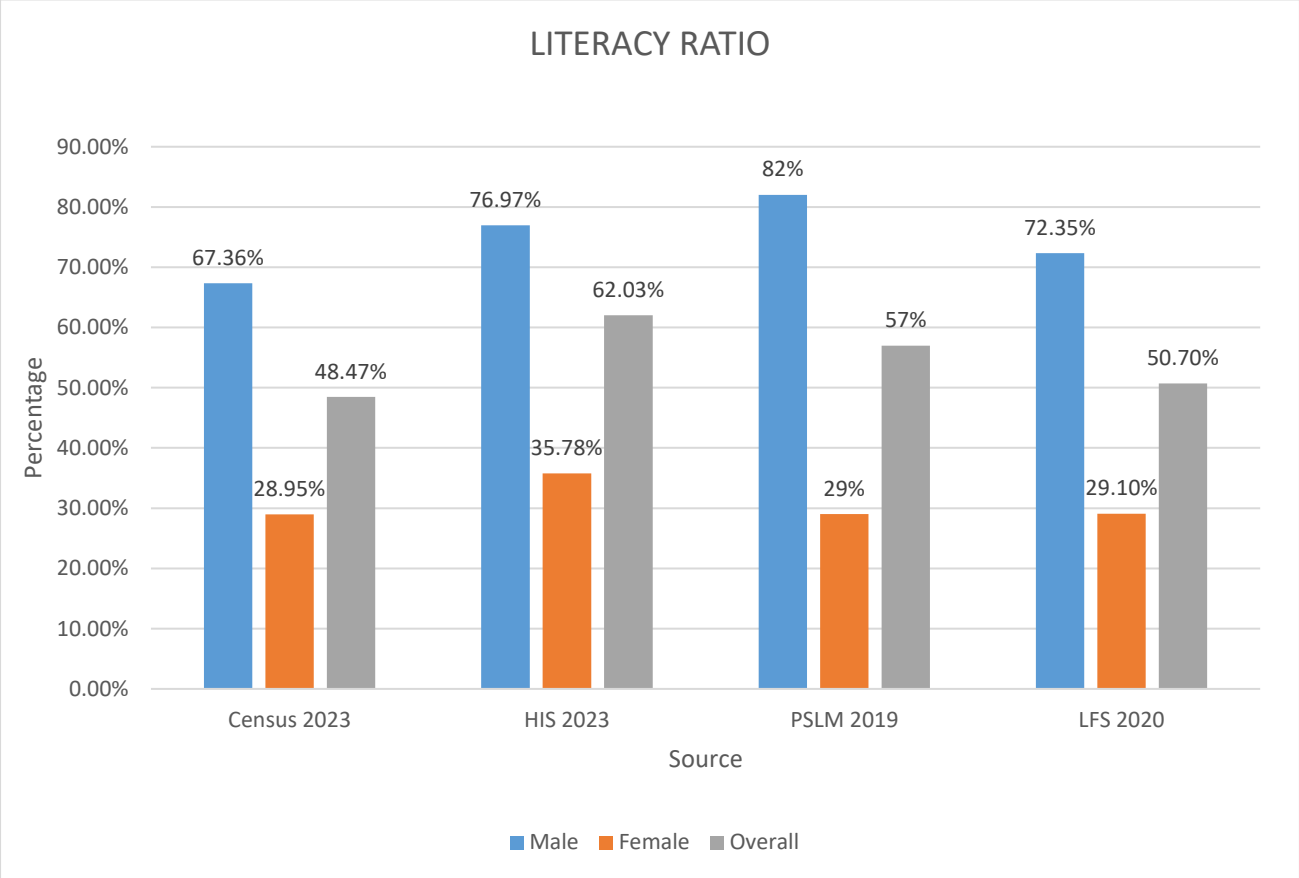


Figure 1-10: District Lakki Marwat Comparative Literacy Ratios

1.4.7 Education Attainment

The education attainment data for District Lakki Marwat indicates that a significant portion of the population has education levels below matric. In the District, educational attainment levels are modest, with the HIS carried out in 2023 recording the highest at 58.34% of respondents having some level of education, followed by LFS 2020 with a little more than half (52.1%) of the population having received some education. For LFS and PSLM, microdata available at the Pakistan Bureau of Statistics website have been analysed to obtain the overall education attainment in District Lakki Marwat.

The detail from different sources is given in the **Table** and shown in the **Figure** below.

Table 1-6: District Lakki Marwat Educational Attainment

Education Level	Census 2023	HIS 2023	LFS 2020	PSLM 2019
Below Matric	24.88%	41.66%	30.09%	30.14%
Matric	7.57%	32.35%	9.13%	9.60%
Intermediate	3.24%	13.62%	4.93%	4.49%
Technical Diploma and Other	0.06%	0.60%	3.69%	0.06%
Graduate	1.32%	5.72%	1.99%	2.39%
Master and above	2.23%	5.66%	2.26%	2.28%
Total	**39.30%**	**58.34%**	**52.09%**	**48.96%**

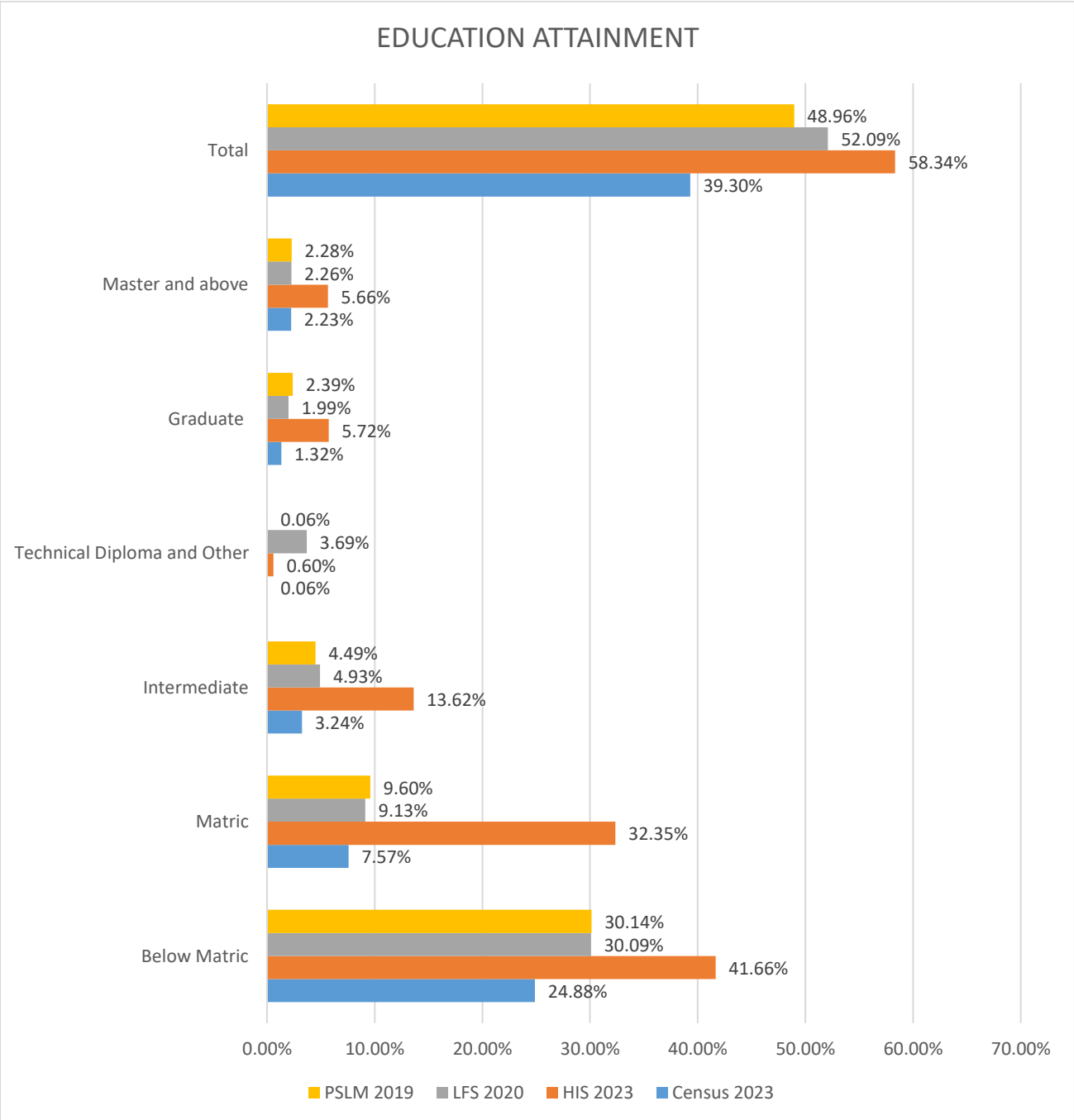


Figure 1-11: District Lakki Marwat Overall Education Attainment

1.5 Administrative Setup

Nestled in the southern region of Khyber Pakhtunkhwa, District Lakki Marwat has been divided into four tehsils, each contributing uniquely to the district's dynamics. The urban fabric is prominent across various tehsils, encompassing an urban lifestyle. There are two urban areas in the district, Lakki Marwat City and Serai Naurang City.

1.5.1 Tehsil Setup

Bettani Tehsil covers an area of 186.66 square kilometers, which represents 5.49% of the district's total area. Ghazni Khel Tehsil spans 1205.19 square kilometers, accounting for 35.46% of the total. Lakki Marwat Tehsil, the largest among the four, covers 1427.01 square kilometers, contributing 41.98% of the district's land area. Sarai Naurang Tehsil, with an area of 580.07 square kilometers, represents 17.07% of the total. Collectively, these tehsils make up the entire area of Lakki Marwat District, which amounts to 3398.91 square kilometers, with each tehsil's proportion contributing to the whole 100%. This distribution highlights the dominance of Lakki Marwat Tehsil in terms of area, followed by Ghazni Khel, while Bettani covers the smallest portion of the district.

Table 1-7: District Lakki Marwat Tehsil Wise Area Distribution

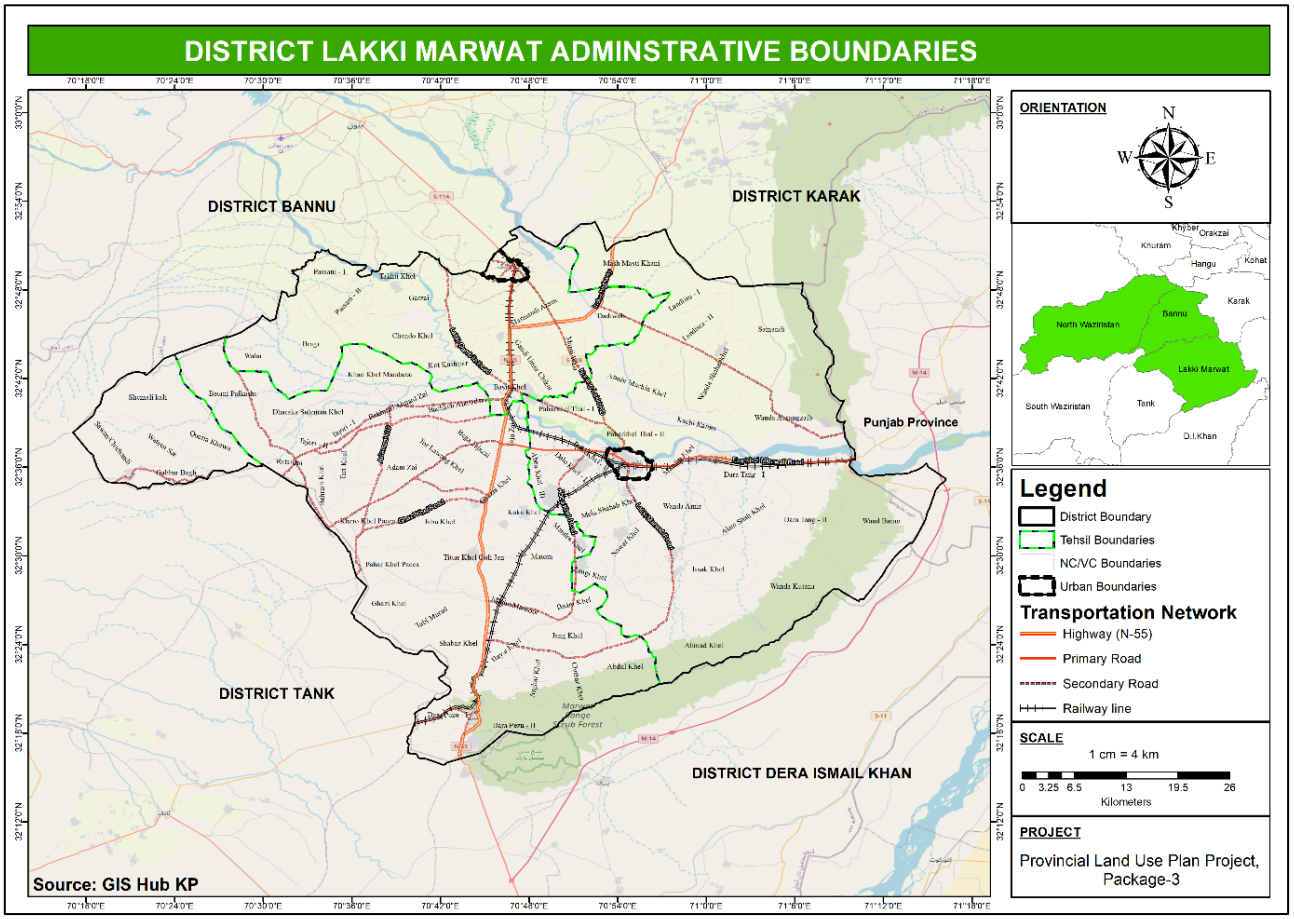
S. No	Tehsil	Covered Area (Sq. Km)	% age
1	Bettani	186.66	5.49
2	Ghazni Khel	1205.18	35.46
3	Lakki Marwat	1427.00	41.98
4	Sarai Naurang	580.07	17.07
Total		**3398.91**	**3398.91**

1.5.2 Urban Centers

District Lakki Marwat consists of two urban areas, namely, Lakki Marwat and Serai Naurang. Lakki Marwat Urban is the largest urban area, covering 1394.19 hectares, which accounts for 54.86% of the total urban land. This indicates that Lakki Marwat is the dominant urban center, contributing significantly to the district's overall urban development. In contrast, Serai Naurang Urban, while still an important part of the district's urban landscape, covers a smaller area of 1147.12 hectares, making up 45.14% of the total urban land. Together, these two urban areas encompass a total of 2541.31 hectares, representing the entirety of the district's urban regions. This data shows the major role Lakki Marwat Urban plays in shaping the district's urban infrastructure, while Serai Naurang Urban also plays a crucial role in regional development. The distribution illustrates a clear concentration of urbanization in Lakki Marwat, suggesting it is the primary hub for economic, social, and infrastructure activities within the district.

Table 1-8: Urban Areas in District Lakki Marwat

S. No	Tehsil	Urban Area	Area (Hectares)	% age
1	Lakki Marwat	Lakki Marwat Urban	1394.19	54.86%
2	Serai Naurang	Serai Naurang Urban	1147.12	45.14%
Total Urban Area			**2541.31**	**100%**



Map 1-7: District Lakki Marwat Administrative Boundaries

1.6 Urbanization & Hierarchy of Human Settlements

Urbanization refers to the process by which the urban population increases as compared to rural areas, due to economic development and industrialization. As per international literature, multiple factors contribute to urbanization in developed and developing countries.

Natural increase in urban population refers to growth due to a surplus of births over deaths, driven by improved healthcare, sanitation, and living standards, leading to population growth, increased service demand, economic boost, and social impact. Migration from rural to urban areas involves people relocating for better opportunities, contributing to population redistribution, economic growth, infrastructure demand, and social integration. Conversion of rural/peri-urban areas to urban involves transforming semi-rural landscapes due to urban expansion and demographic pressure, resulting in spatial growth, land use changes, environmental impact, and the need for effective planning and management. Globally, over half the population was urban in 2019, expected to reach 6 billion by 2041. In Pakistan, urbanization rose from 32.5% in 1998 to 36.4% in 2017[11].

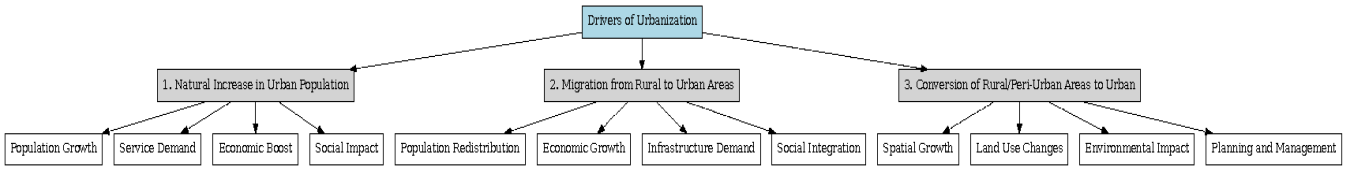


Figure 1-12: Drivers of urbanization

[11] *Pakistan Bureau of Statistics. (2021, April 12). Final Results of Sixth Population and Housing Census-2017. Table-1: Area, Population by Sex, Sex Ratio, Population Density, Urban Proportion, Household Size and Annual Growth Rate.*

1.6.1 Urbanization trend

The urbanization trend in Pakistan is on an upward trajectory, with notable increases in Khyber Pakhtunkhwa, however, District Lakki Marwat has remained largely rural with minimal change over time. According to the 2017 Census, only 10% of the district's population resided in urban areas, while 90% lived in rural settings. This marks a slight decrease in urban population compared to the 1998 Census, which reported 11% urban and 89% rural population distribution. The data reflect a stagnation, and even a minor decline, in the rate of urbanization in the district over the past two decades. The primary reason for the decrease in urban population and increase in rural population in Lakki Marwat is the static urban boundary. The urban boundary remained unchanged, causing surrounding urbanized areas to still be classified as rural. Over time, this lack of boundary redefinition led to the observed statistical trends. Details of the urbanization trend in District Lakki Marwat compared with the province and Pakistan is illustrated in **the Figure** below.

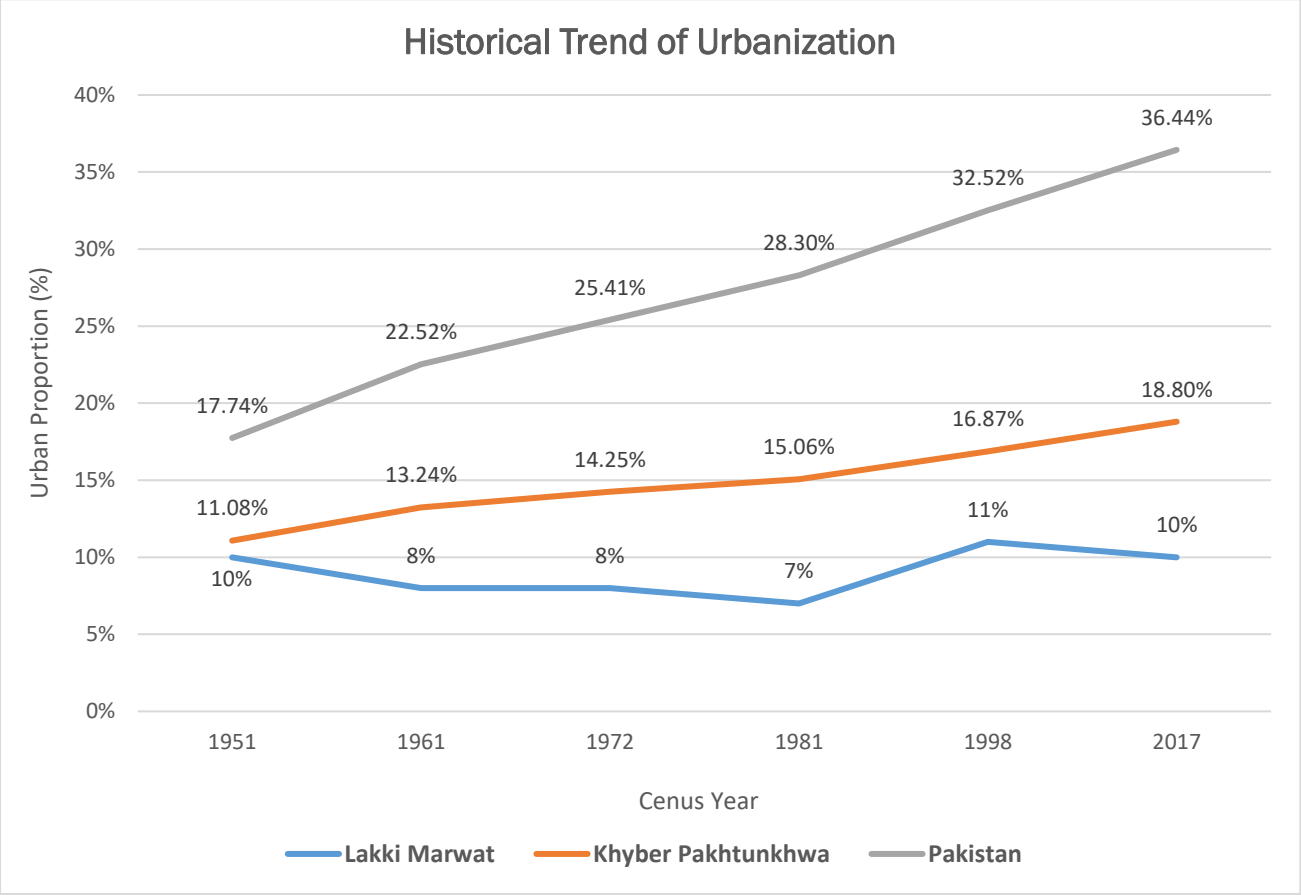


Figure 1-13: Urbanization Trend in District Lakki Marwat

1.6.2 Hierarchy of Human Settlements

The hierarchy of human settlements in District Lakki Marwat has been developed through a detailed scoring system based on population, density, administrative status, education, health facilities, and road accessibility. Each settlement is evaluated according to these characteristics, with higher scores reflecting greater service provision and urban potential. Based on the cumulative scores, settlements are classified into five categories: **first order (>20)**, representing the largest settlements with the most facilities and services; **second order (20–14)**, consisting of moderately developed centers; **third order (14–10)**, covering settlements with a fair range of services; **fourth order (10–5)**, smaller settlements with limited facilities; and **fifth order (<5)**, representing the least developed settlements with minimal access to services.

1.6.3 Settlement Hierarchy of District Lakki Marwat

The score for each settlement of the district is added, and based on the aggregate score, the hierarchy of settlements is established. The higher the total score of the settlement, the more focus will be given to planning and development for that settlement. The hierarchy of the settlements of District Lakki Marwat is also shown in the Map below.

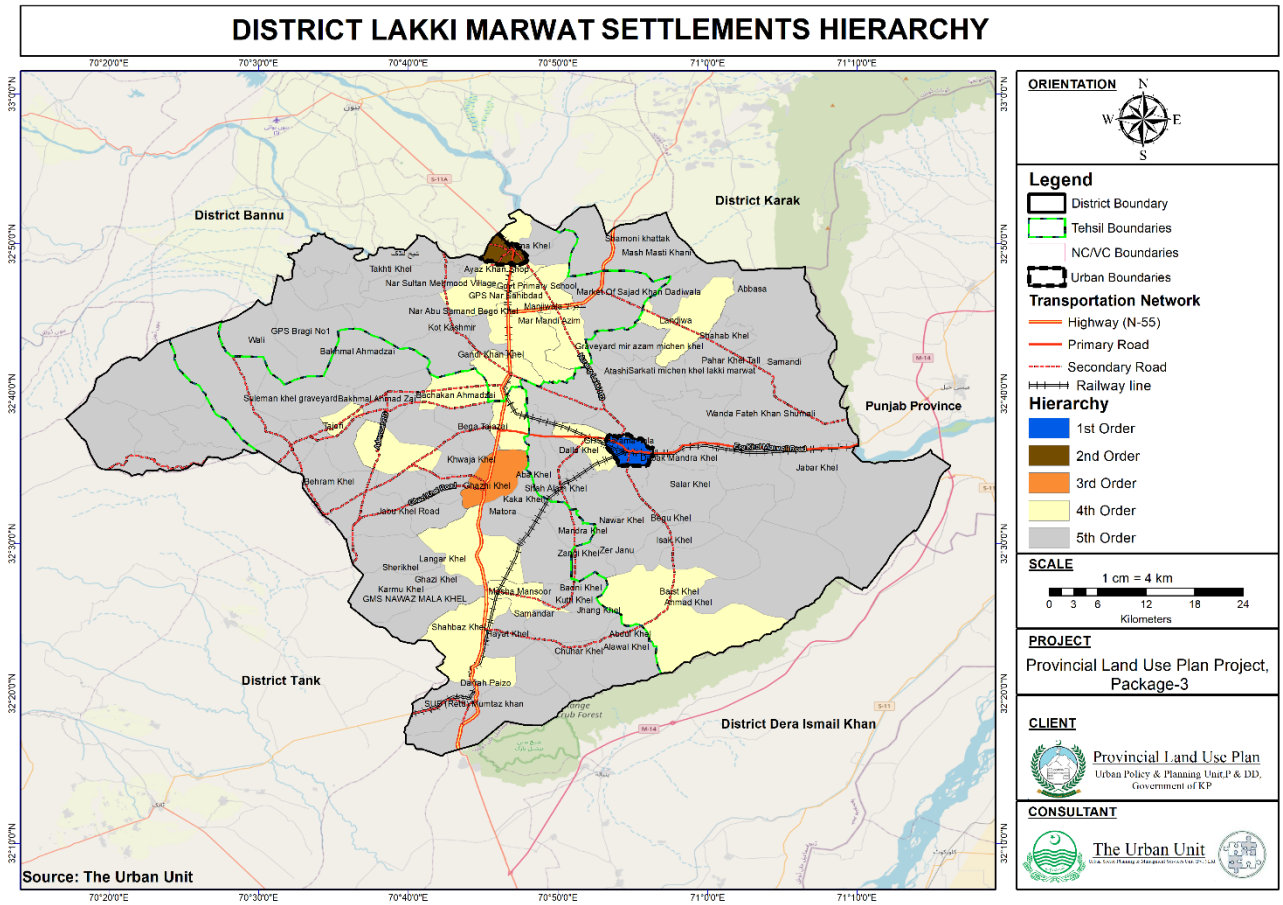
The **1st-order settlement** in District Lakki Marwat is Lakki Marwat MC, a densely populated and fully urbanized area that serves as the district's primary hub for services and infrastructure.

The **2nd-order settlements**, Sarai Naurang TC, is strategically located along the D.I. Khan-Bannu Road exhibiting urban features, have access to basic utilities, and support Lakki Marwat City by easing service demand and catering to nearby areas.

The **3rd-order settlements** are moderately developed, offering more services than lower tiers. District Lakki Marwat includes Tehsil Headquarters of Ghazni Khel which lies on main Indus Highway (N-55). Officially rural, but it has all basic utilities and infrastructure to support urban areas of the district.

The **4th-order settlements** have limited-service, better-access than 5th-order areas but below livable standards. There are eighteen in total.

The **5th-order settlements** are the most underdeveloped, isolated, and lacking basic amenities like water, power, and education. District Lakki Marwat has seventy-five of these low-density settlements.



Map 1-8: District Lakki Marwat Rank Wise Settlement Hierarchy

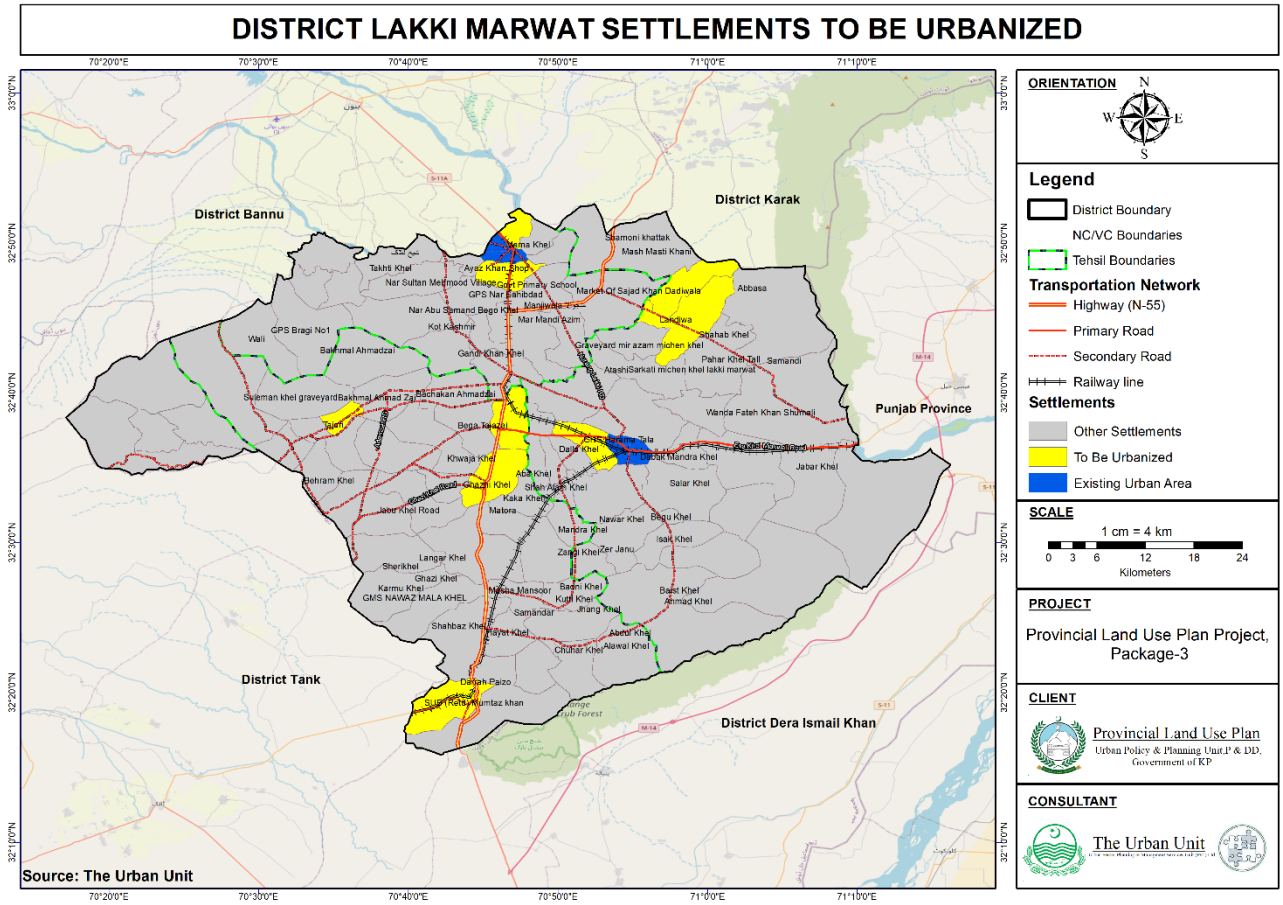
1.6.4 Settlements to be Urbanized

For the identification of the areas that would be urbanized, a detailed evaluation of all the settlements has been conducted through demographic analysis, settlement hierarchy analysis, functional matrix analysis, and change detection analysis. The rank-wise settlement hierarchy details are appended as Annexure-A. Based on the above-mentioned evaluation, significant potential was observed in the expansion and development of settlement around the Lakki Marwat MC namely Dalo Khel-II, Mama Khel VC and Narabad Samnabad Begu Khel VC around Sarai Naurang TC, Ghazni Khel VC, Tajazai VC, Tajori-I VC and Pezu-I and Pezu-II VC's, Landiwa-I and Landiwa-II VC's.

Table 1-9: Settlements to be Urbanized

Tehsil	Settlement Name	Urbanized
Lakki Marwat	Dalo Khel-II	Partially
	Landiwa-I	Partially
	Landiwa-II	Partially
Naurang	Mama Khel	Fully
	Narabad Samnabad Begu Khel	Partially
Ghazni Khel	Ghazni Khel	Partially

Tehsil	Settlement Name	Urbanized
	Tajori	Fully
	Pezu	Partially
	Pezu-II	Partially
	Tajazi	Partially



Map 1-9: District Lakki Marwat Settlements to be Urbanized

1.6.4.1 Settlements to be Urbanized Due to Urban Growth/Expansion

The Lakki Marwat MC (being a 1st order settlement) comprises Lakki I, Lakki II, Lakki III, and Lakki IV NCs. According to the proposed urban boundary, the urban expansion from the existing boundary of Lakki Marwat MC has been expanded towards Dalo Khel-II in the West. This growth is driven by the relocation of facilities from the city center to peripheral areas, encouraging population movement to the outskirts.

Similarly, in Sarai Naurang Tehsil, near the Naurang TC, settlements like Nar Abud Samand Begu Khel lie Southwards, and Mama Khel lie Northwards, are expected to urbanize during the plan period to accommodate growing populations.

1.6.4.2 Settlements to be Urbanized as Tehsil Headquarters

Ghazni Khel's designation as the Tehsil Headquarters necessitates its planned urbanization and development of essential services. Its strategic location along the Indus Highway and central position within the tehsil make it a key growth node. The urbanization plan includes the development of healthcare, education, public safety, utilities, and modern transport and communication infrastructure. A strong administrative framework will also be established, featuring tehsil offices, judicial services, and public departments to support effective governance.

Currently a 3rd-order settlement, Ghazni Khel already offers some basic services. Its transformation will expand and strengthen these, creating a well-equipped urban center to serve both local and surrounding populations. The proposed urban boundary is included within the Ghazni Khel's existing NC boundary.

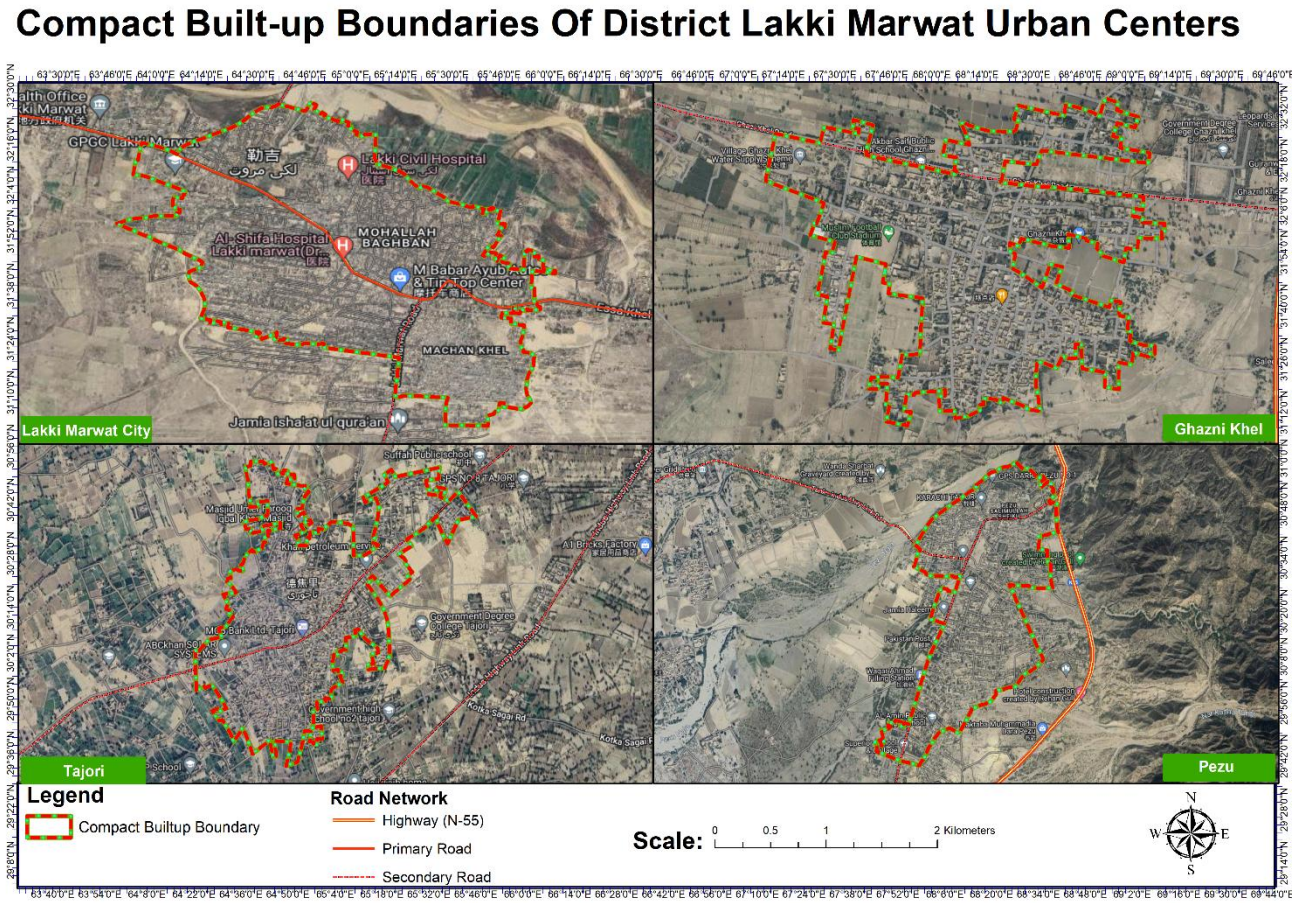
1.6.4.3 Rural Growth Centers in District Lakki Marwat

Rural growth centers are strategically identified rural settlements targeted for development to stimulate economic activity and improve infrastructure. Tajori and Pezu, classified as 4th and 5th order settlements respectively, already offer basic services and infrastructure to local and nearby populations. Being highlighted in the hierarchy analysis, field assessments, and land use data, Pezu confirm its role as a growing urban center along with its strategic location along the Indus Highway, largely influenced by the Lakki Cement Factory, and its position within the tehsil makes it a key growth node. Tajori lying to the West in the district makes it an important location keeping the Bettani Tehsil in the vicinity. Tajori-I VC small in size is an emerging growth pole. Tajazai which lies on the main Indus Highway (N-55) classified as 4th order settlement in hierarchy analysis offer basic services and infrastructure to local and nearby populations having district complex, university and DHQ hospital serving the entire district. Landiwa settlement in the northern part of the district known as Kurram-Par having scattered development throughout have been identified as potential center to cater the entire northern region of the district.

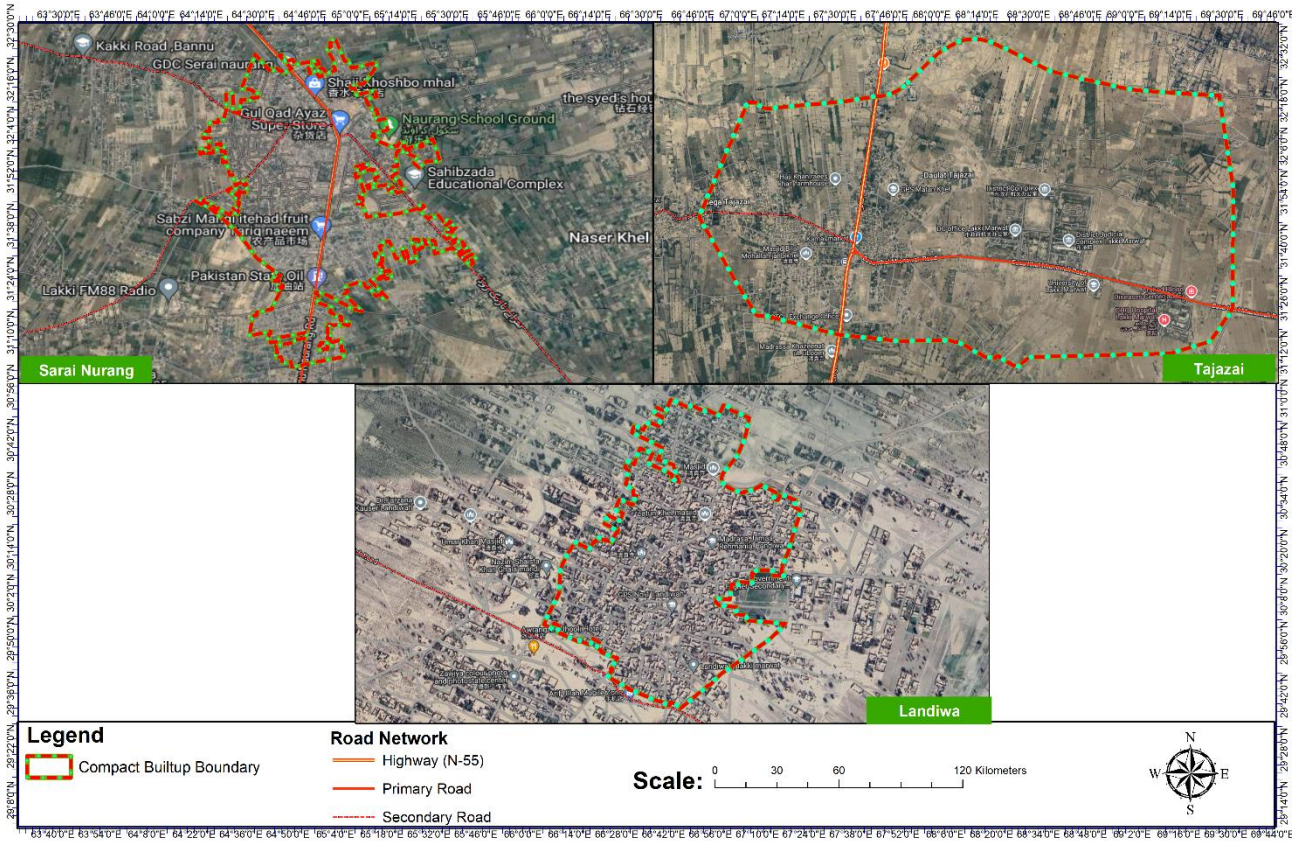
Future development in these centers will focus on upgrading services, expanding infrastructure, and enhancing quality of life, supporting gradual urbanization and sustainable regional growth. The boundary incorporates parts of the Dara Pezu-I VC towards the North, while Darra Pezu-II VC towards the South.

1.6.5 Compact Built-up Boundaries of Lakki Marwat Urban Areas

The initial step is the demarcation of compact built-up boundaries (CBB), which is a crucial aspect of land use planning. It involves identifying and delineating areas of continuous urban development to guide future growth and development. By defining clear boundaries, planners can effectively manage urban sprawl, preserve valuable natural resources, and promote sustainable development. CBBs allow for the efficient planning and development of infrastructure, such as roads, water supply, and sewage systems, reducing costs and improving service delivery. The first and foremost task was to chalk out the compact built-up boundaries for these areas. Demarcating these boundaries was carried out by using existing land use maps and drawing the boundary clearly, engulfing dense and continuous development having mixed land uses, such as residential, commercial, recreational, etc. The key principles for chalking out these boundaries were to follow natural or man-made permanent features such as roads, water bodies, etc., to ensure clarity and consistency in the demarcation process. In Lakki Marwat, seven compact built-up boundaries have been marked, including Lakki Marwat, Landiwa, Sarai Naurang, Ghazni Khel, Tajori, Pezu and Tajazai urban centers, shown below in the **Map**.



Map 1-10: Compact Built-up of the district Lakki Marwat urban centers



Map 1-11: Compact Built-up boundaries of proposed urban centers

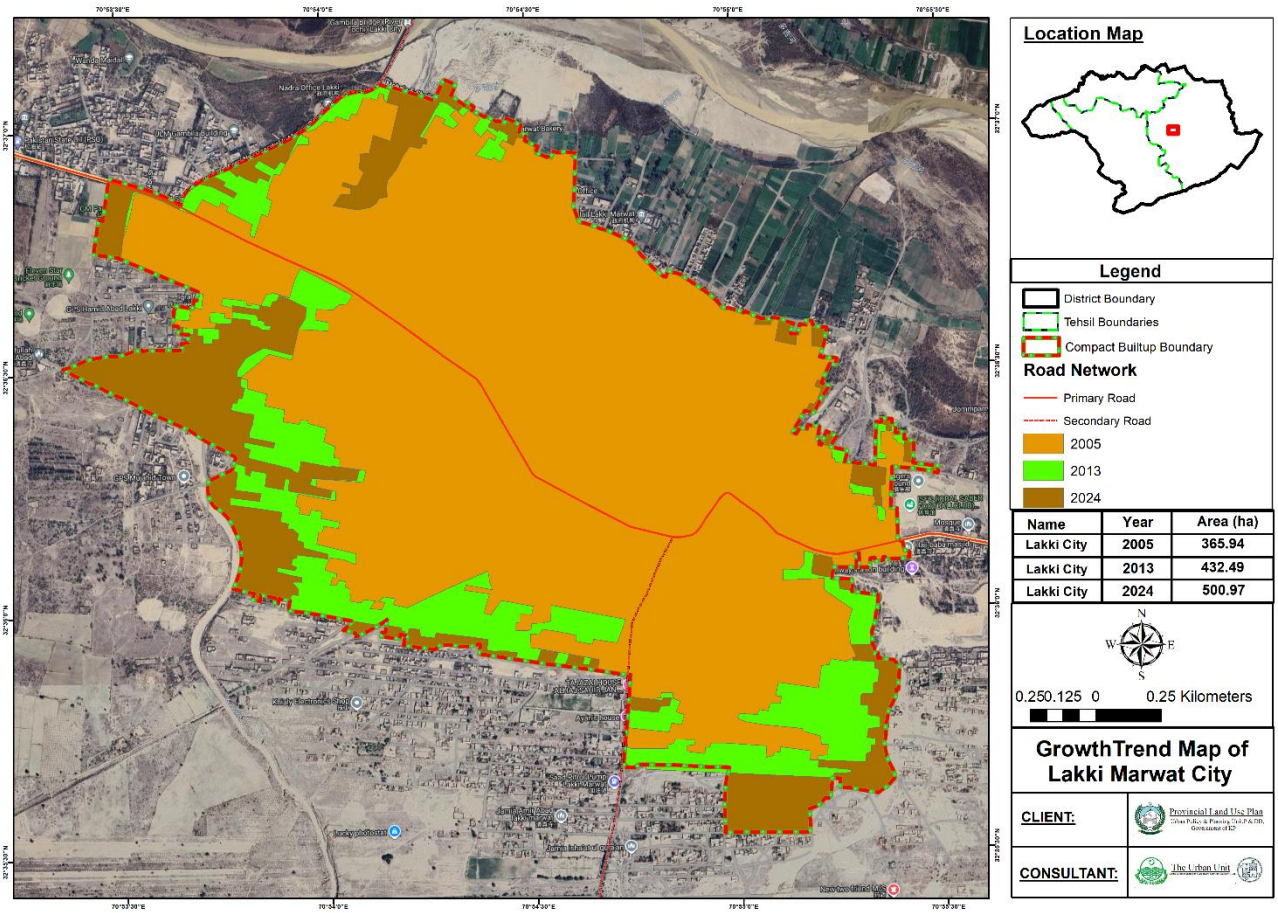
1.6.6 Growth Directions of Lakki Marwat Urban Areas

The growth direction of Lakki Marwat urban areas, based on compact built-up boundaries, has been assessed using historical Google Earth open imagery for the past 20 years.

1.6.6.1 Lakki Marwat City

The growth trend analysis of Lakki Marwat city reveals a steady and notable urban expansion over the past two decades. The compact built-up area increased from 365.94 hectares in 2005 to 432.49 hectares in 2013, marking a growth rate of approximately 18.2% over the eight years. By 2024, the built-up area has further expanded to 500.97 hectares, reflecting an additional 16% growth since 2013. This urban expansion is primarily concentrated along key transportation corridors such as Esai Khel Mirzali Road, Shahbaz Khel Road, and Begu Khel Road, indicating the influence of improved connectivity and access on development patterns.

The growth is spatially distributed, with significant development observed in the southern and southeastern sectors where land availability and road infrastructure support densification. In contrast, the northern and northwestern zones, characterized by agricultural use and fragmented development, have witnessed relatively limited expansion. These patterns suggest that future urban planning and zoning efforts should prioritize infrastructure-led development along major road networks while conserving agricultural zones and managing sprawl. Below **Map** illustrates the transformation of the built-up footprint of Lakki Marwat city from 2005 to 2024.



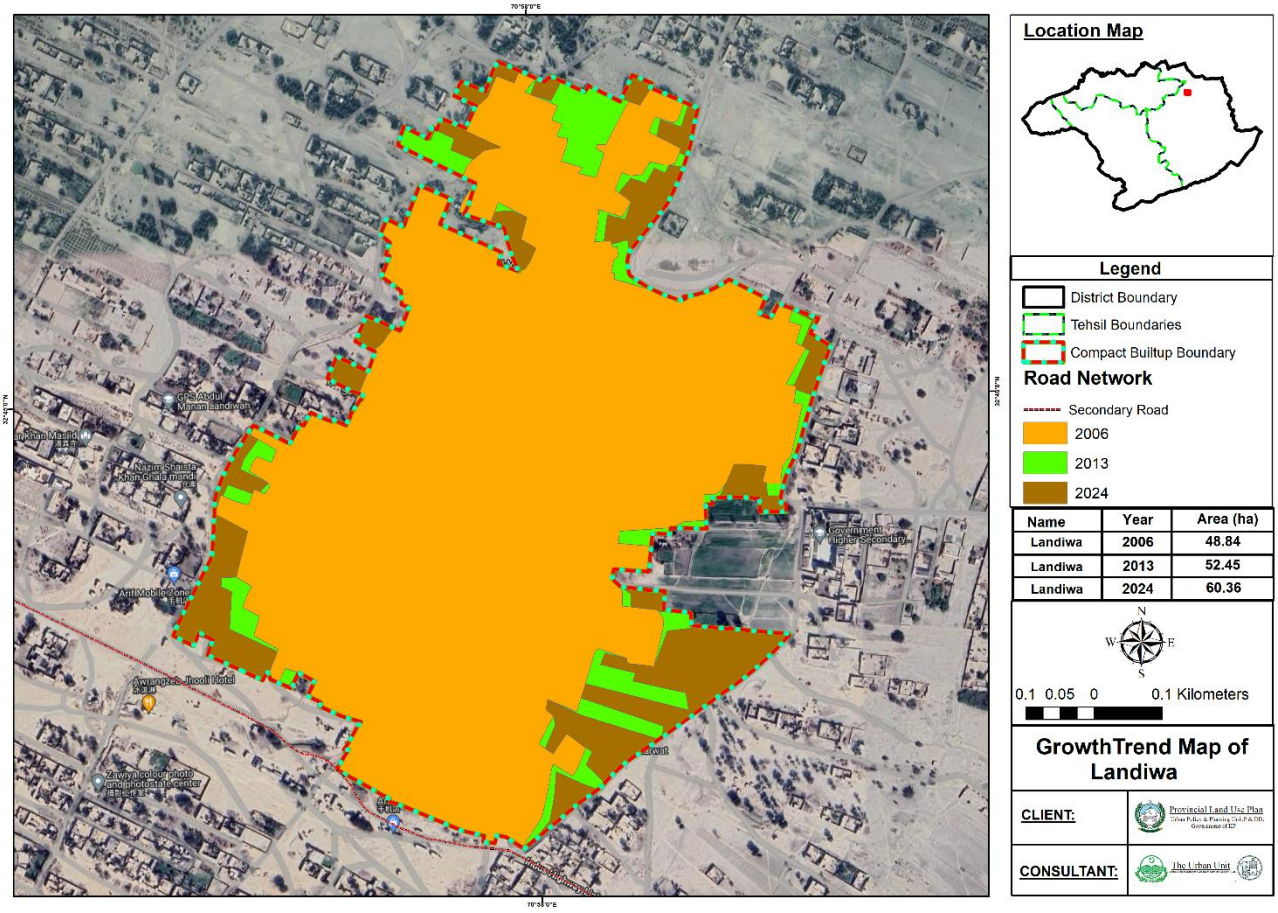
Map 1-12: Lakki Marwat city urban center change detection analysis

1.6.6.2 Landiwa

The growth trend analysis of Landiwa urban center show a steady and notable urban expansion over the past two decades. The compact built-up area increased from 48.84 hectares in 2006 to 52.45 hectares in 2013, marking a growth rate of approximately 7.4% over the seven years. By 2024, the built-up area has further expanded to 60.36 hectares, reflecting an additional 15.1% growth since 2013.

The expansion is primarily driven by Indus Highway Link Road passing through the center of the compact built-up attracting development. The Southward focus of development is connected with the road

accessibility to the Lakki Marwat city attracting development in the past decade. Below **Map** illustrates the transformation of the built-up footprint of Landiwa urban center from 2006 to 2024.

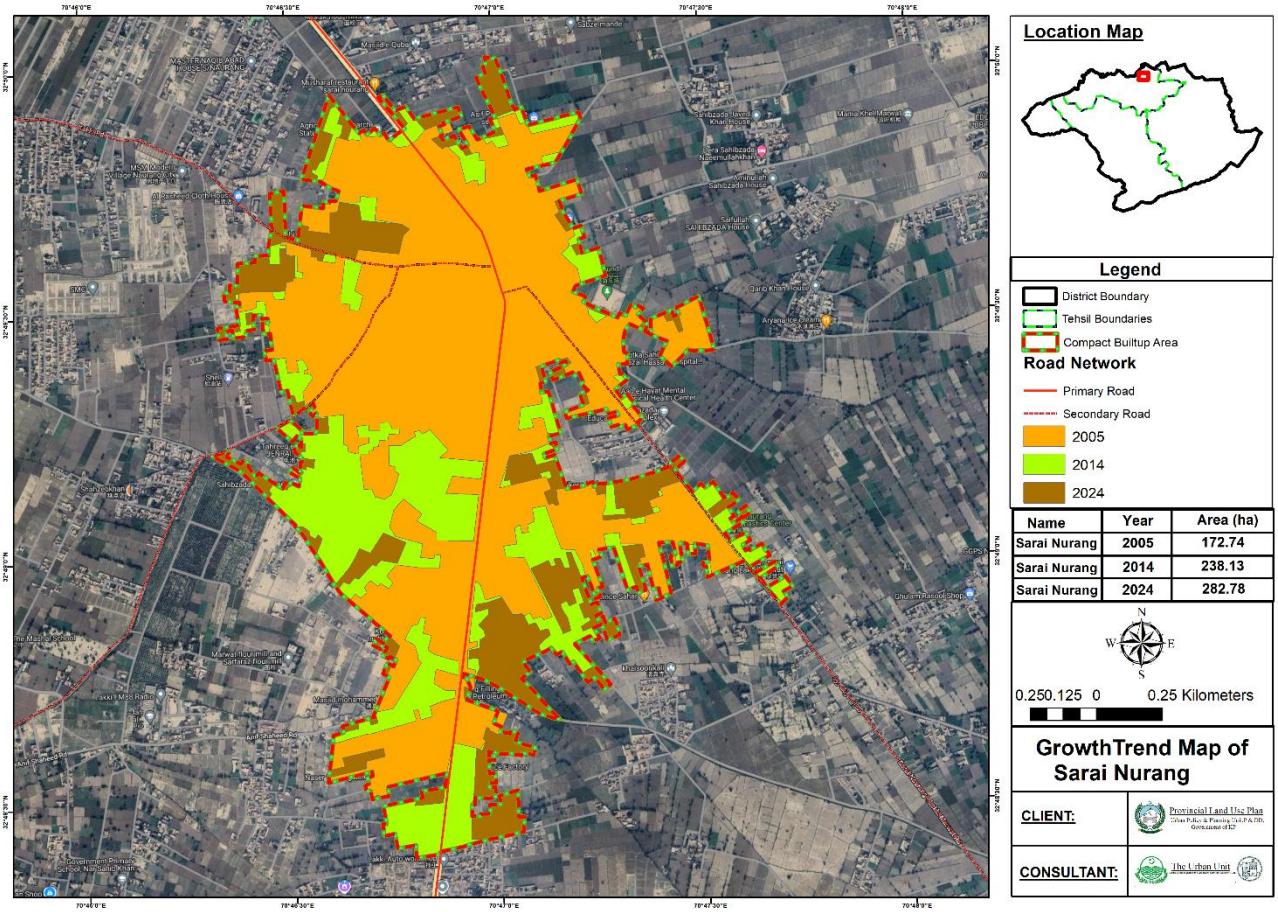


Map 1-13: Landiwa urban center change detection analysis

1.6.6.3 Sarai Naurang

The growth trend analysis of Sarai Naurang shows a marked expansion in the built-up area over the past two decades. The compact built-up area increased from 172.74 hectares in 2005 to 238.13 hectares in 2014, a growth of 37.8%. By 2024, it further expanded to 282.78 hectares, reflecting a 5% increase since 2014.

This growth is primarily concentrated along major roads such as the Naurang–D.I. Khan Road and Bannu–Naurang Road, facilitating southward and southeastern urban spread. Western and northern parts remain largely agricultural. These patterns highlight the need for strategic zoning and infrastructure planning to manage future growth efficiently. Below **Map** illustrates the Naurang's land use transformation from 2005 to 2024.

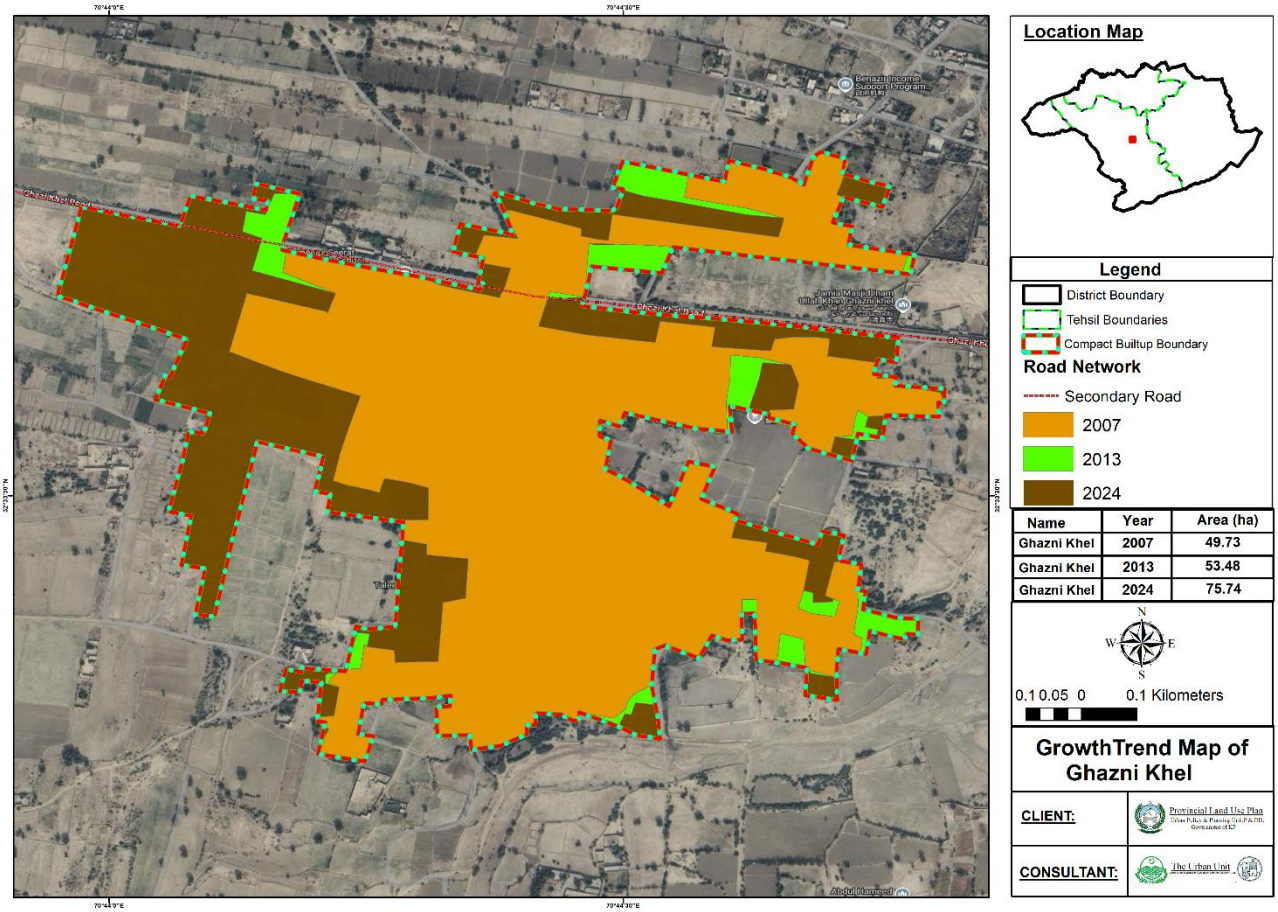


Map 1-14: Sarai Naurang urban center growth trend through the years

1.6.6.4 Ghazni Khel

The growth trend analysis of Ghazni Khel indicates gradual urban expansion over the past two decades. The compact built-up area increased from 49.73 hectares in 2007 to 53.48 hectares in 2013, marking a 7.5% growth. By 2024, the built-up area reached 75.74 hectares, showing an additional 41.6% increase since 2013.

Development has primarily extended along the Lakki Marwat–Ghazni Khel Road and nearby secondary roads, with noticeable expansion in the western directions. The northern and western areas remain dominated by agriculture. These trends underscore the importance of guided urban planning to support future growth while conserving surrounding farmland. Below **Map** highlights land use changes in Ghazni Khel from 2007 to 2024.

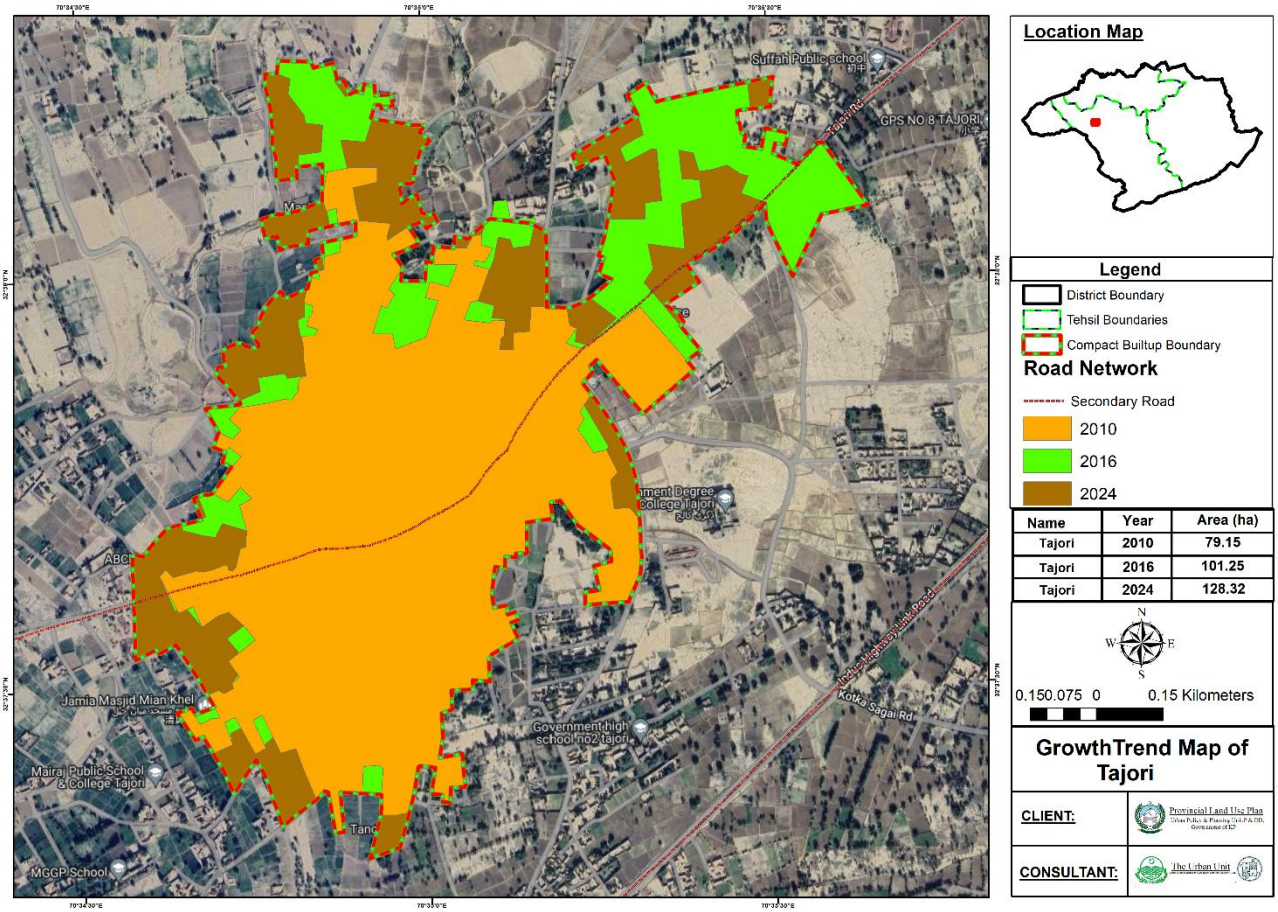


Map 1-15: Ghazni Khel urban center growth trend throughout the years

1.6.6.5 Tajori

The growth trend analysis of Tajori indicates gradual urban expansion over the past two decades. The compact built-up area increased from 79.15 hectares in 2010 to 101.25 hectares in 2016, marking a 28% growth. By 2024, the built-up area reached 128.32 hectares, showing an additional 26.7% increase since 2016.

The growth is primarily driven by Tajori Road which runs through the compact built-up all the way towards tehsil Bettani. Recent developments in the past decade are also attracted by the Indus Highway Link Road running from the East to the South of the area. Below **Map** highlights land use changes in Tajori from 2010 to 2024.

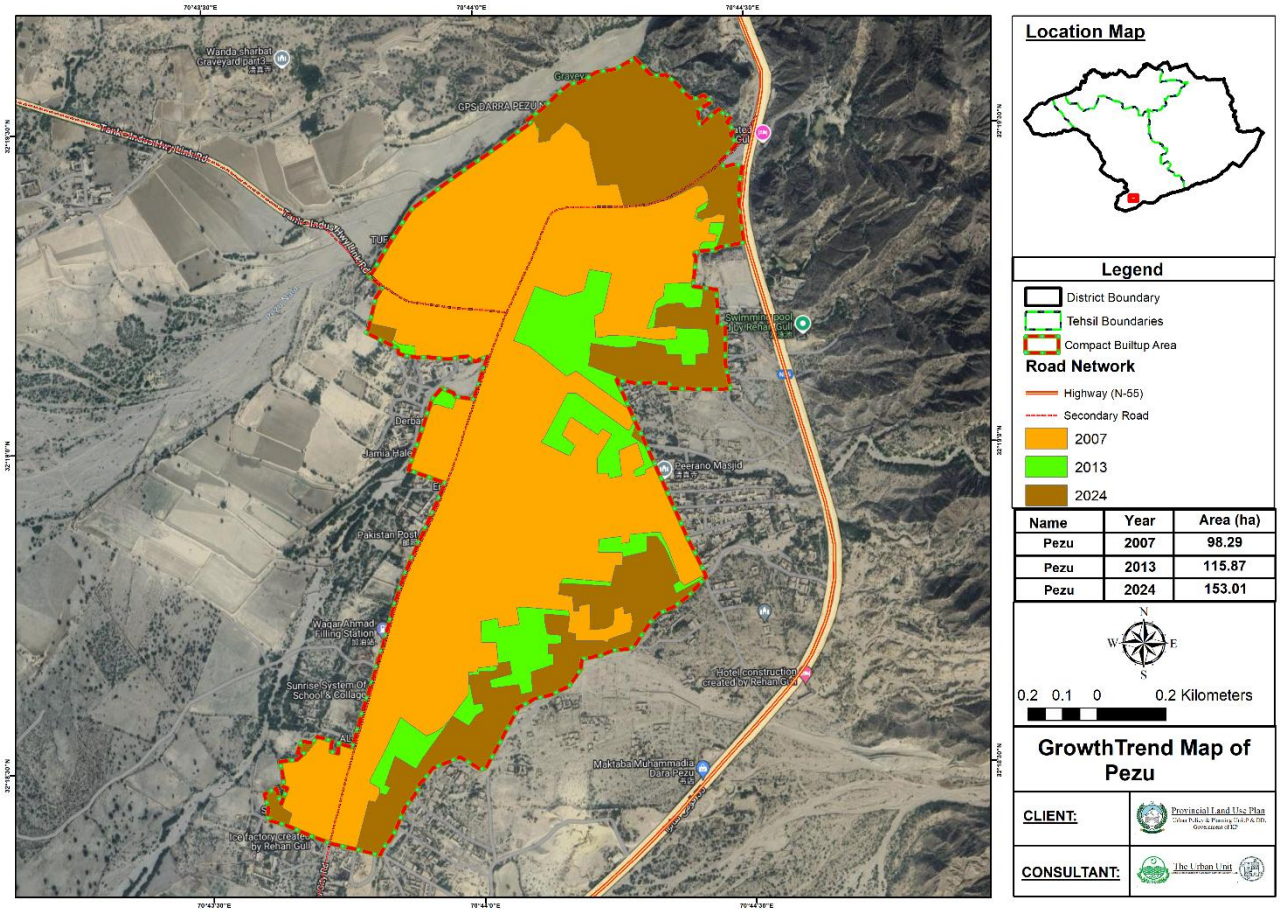


Map 1-16: Tajori urban center change detection analysis

1.6.6.6 Pezu

An analysis of the past 20 years reveals that growth has primarily expanded toward the Southeast and North where the hilly range ends. In 2007, the compact built-up area of Pezu covered approximately 98.29 hectares, increasing to about 115.87 hectares by 2013, and currently reaching around 153 hectares. This reflects an 18% growth from 2007 to 2013 and a further 32% increase from 2013 to 2024.

The growth is driven by the Indus Highway (N-55) that runs through the East of the built-up area crossing along the Lucky Cement Factory in the South. Below **Map** highlights land use changes in Pezu from 2007 to 2024.

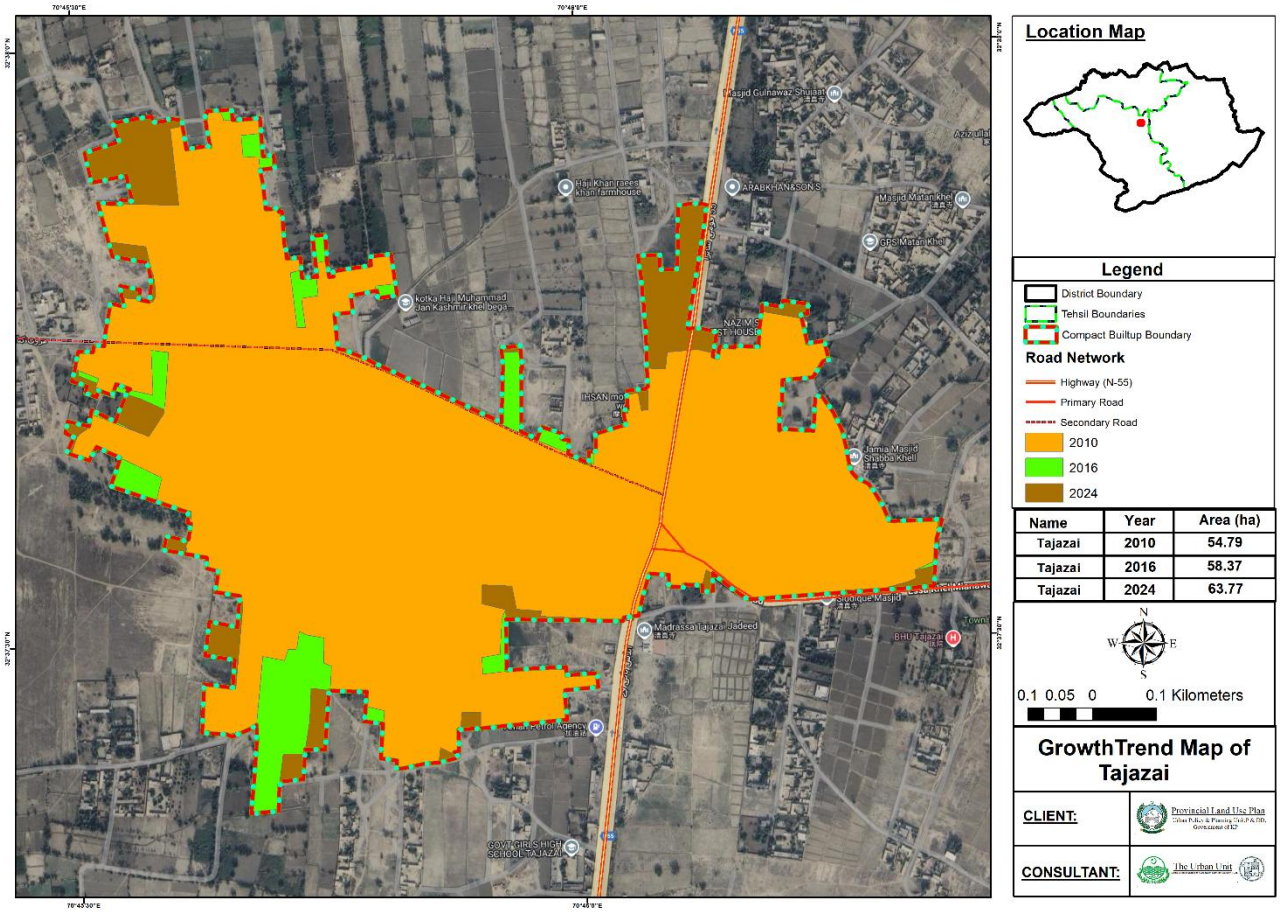


Map 1-17: Pezu urban center growth trend throughout the years

1.6.6.7 Tajazai

An analysis of the past 20 years reveals that growth has primarily expanded toward the Southeast and North where the hilly range ends. In 2010, the compact built-up area of Tajazai covered approximately 54.79 hectares, increasing to about 58.37 hectares by 2016, and currently reaching around 63.77 hectares. This reflects an 6.5% growth from 2007 to 2013 and a further 9.3% increase from 2016 to 2024.

The growth is primarily driven by Indus Highway (N-55) road which runs through the compact built-up all the way towards South accompanied by Essakhel-Mianwali road going to the Lakki city. running to the East side. Below **Map** highlights land use changes in Tajazai from 2010 to 2024.



Map 1-18: Tajazai urban center growth trend through the years

1.6.7 Planning Boundaries

Delineating urban boundaries is essential for sustainable land use and growth management. Clear boundaries support compact, high-density development, optimize infrastructure use, control unplanned expansion, and protect rural land. They also guide zoning, resource allocation, and future development, reducing costs and environmental impact. The figure below outlines the consultant's process for defining proposed urban boundaries.

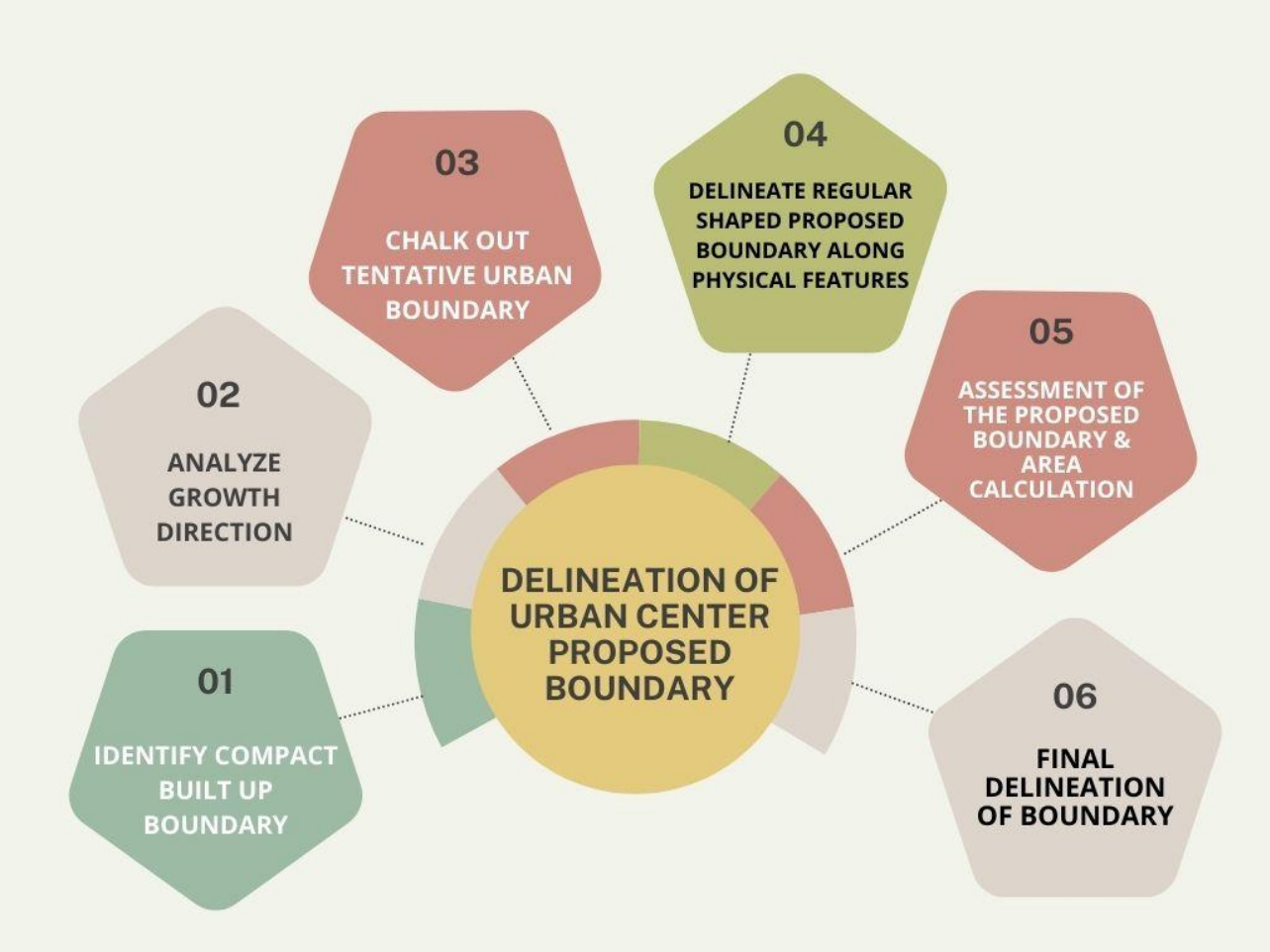


Figure 1-14: Urban Area Proposed Boundary Delineation Process

The process of delineating the proposed boundary for the urban area started with the compact built-up boundary, whose delineation has already been discussed above. Working along the direction of physical growth, a tentative boundary had been chalked out so as to get a rough idea of the working boundary. The boundary encompassed relevant recent development and planned projects in the form of buildings and spaces such as community centers, colleges, and universities, etc. contributing to the socio-economic fabric of the urban areas. If the area is already Urban, then in the case of boundary expansion/readjustment, the neighboring rural areas, i.e., Village Councils, were included in the boundary, for which the proportion of rural area to be included in the urban area was calculated. The proportion of the population of these Village Councils was added to the existing NC for the calculation of the total area required during the plan period.

On the other hand, the tentative boundary of areas which were previously rural areas, i.e., Village Councils, have now been changed to Urban areas. If these areas comprised more than 1 VC, the proportional calculation of the population of each VC was carried out. Based on this population, the area requirement for each urban area was calculated. These were then used to calculate the area required to avoid boundaries that were more than the requirement of the population during the plan period.

After the calculation of requirements, the proposed urban area boundary was delineated following the physical features, both natural and man-made, and keeping the shape of the boundary as regular as possible, to remove any ambiguity in the jurisdictional matters. By considering both natural constraints and man-made infrastructure, the planning boundary is designed to guide sustainable growth, minimize conflicts with environmentally sensitive areas, and optimize land use for future residential, commercial, and public service needs. Once the proposed boundary for urban areas was delineated, they were assessed with the area requirement, so as to double-check the possibility of under- or over-utilization of space in terms of land. Based on these, the urban area planning boundaries were carefully delineated to accommodate future development.

1.6.7.1 Lakki Marwat City

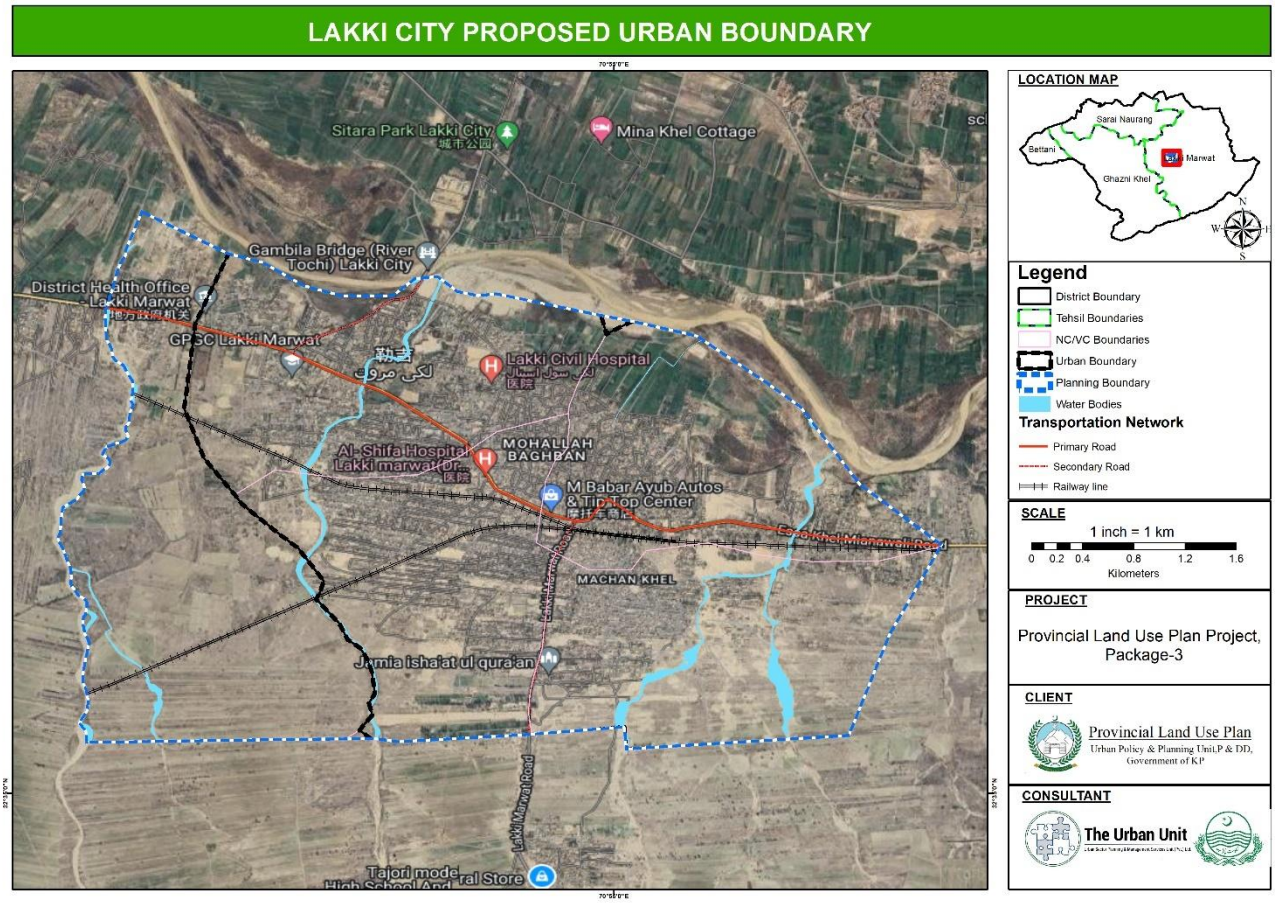
Based on the updated image showing the proposed planning boundary of Lakki Marwat City, the delineation has been undertaken to integrate existing urban extents, natural features, and future

development needs cohesively. The boundary commences from the southeastern side, near the convergence of the main approach road and the outer developed edge, and extends westward along the southern agricultural belt, capturing emerging settlement clusters. It continues straight along the southern axis, aligning with clear agricultural plot divisions and infrastructural lines, thereby encompassing sufficient space for urban expansion while avoiding disruption to agricultural continuity.

As the boundary proceeds to the southwestern corner, it takes a turn northward, following the peripheral limit of the developed built-up area on the western side of the city. It ascends in a curvilinear path, tracing the edge of the urban footprint and bordering the agricultural land following the small water body until it reaches the northwestern extent. From here, the boundary turns eastward and runs parallel to the Kurram river in the north. This natural water feature serves as a strategic delimiter, reinforcing floodplain considerations while ensuring connectivity to fertile hinterlands.

Moving along the northern corridor, the boundary continues past the riverbend, incorporating areas with visible urban pressure and planned growth potential. On reaching the northeastern side, it descends southward, enclosing peripheral development pockets and connecting back toward the southeastern edge where it began following the existing urban boundary of Lakki MC. The boundary then shifts towards west reaching the starting point following the existing urban boundary. This boundary alignment has been carefully selected to balance compact urban form with room for structured growth, taking into account natural drainage systems, transportation routes, and existing urban morphology. It provides a comprehensive framework for guiding future urban land use within Lakki Marwat City in a sustainable and strategically integrated manner.

The **Map** below shows the readjusted urban boundary of Lakki Marwat city.

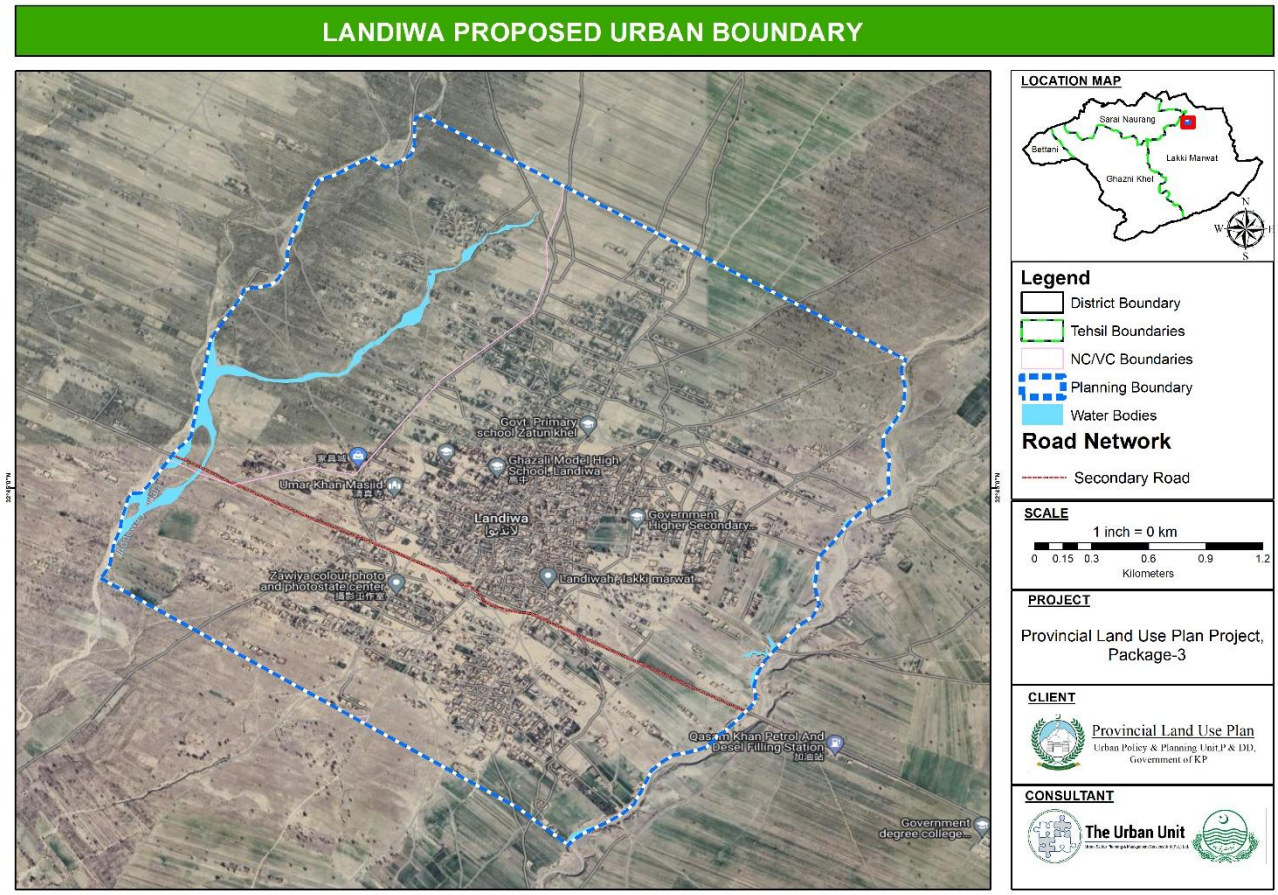


Map 1-19: Lakki Marwat City proposed planning boundary

1.6.7.2 Landiwa

The proposed planning boundary of Landiwa has been carefully drawn to cater to the increasing population needs. It incorporates the settlement's physical form, shape, extent, and the critical transport corridors. The boundary encompasses the compact built-up area, with deliberate outward extensions toward the north and northwest to facilitate structured expansion. Starting from the north corner, the boundary extends straight, aligning with clear agricultural plot divisions, towards the northeastern corner. From there it turns southwards following a curvilinear path along the water stream towards the southern corner. From

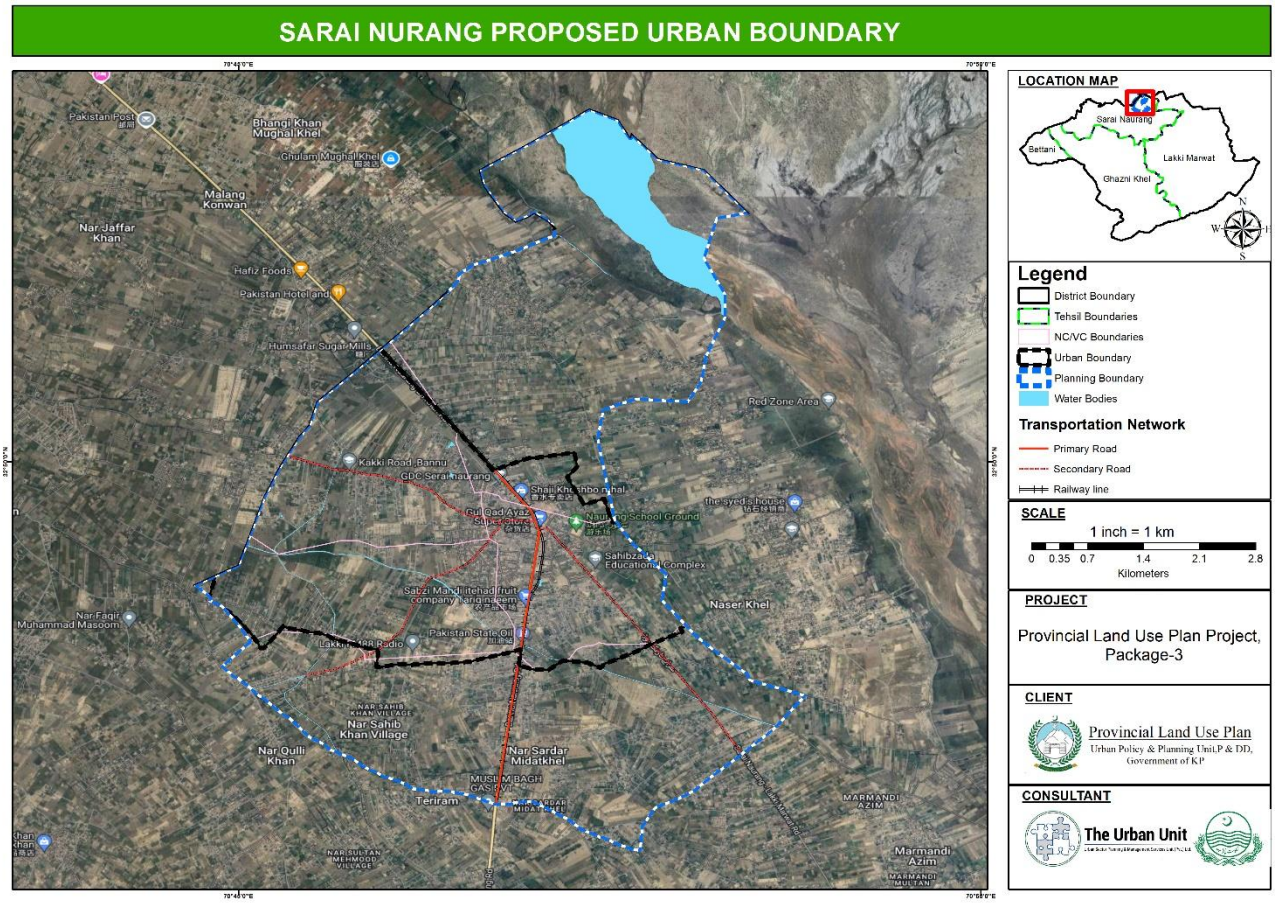
there, it extends straight towards the southwestern corner, including some scattered dwellings while also leaving open areas for future development. Afterwards, towards the north, it extends again along a water stream/river bed towards the north edge.



Map 1-20: Landiwa urban center proposed planning boundary

1.6.7.3 Sarai Naurang

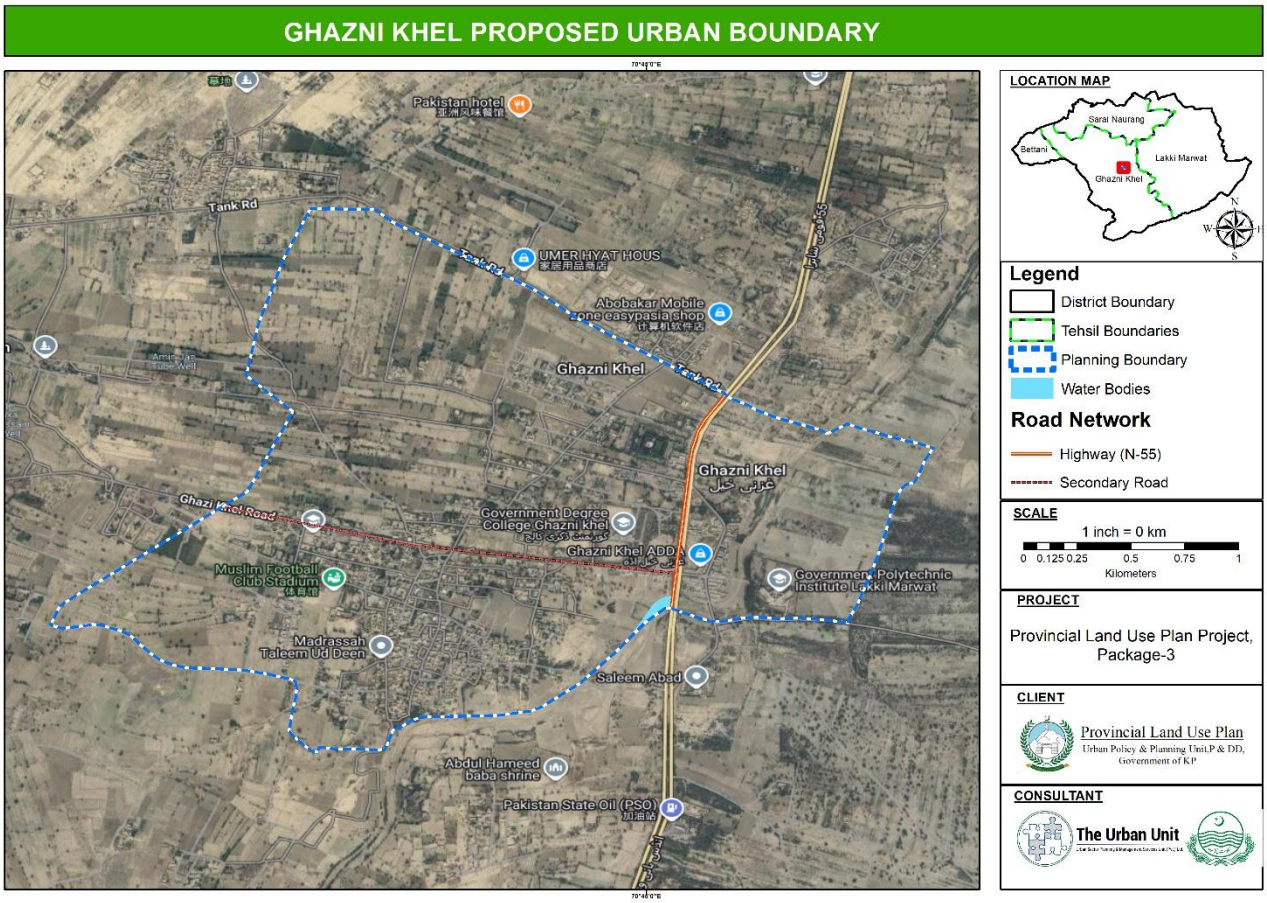
The delineation of the proposed urban boundary for Sarai Naurang has been carefully developed, taking into account the settlement's role as a tehsil headquarters, its physical spread, and its proximity to critical transport corridors. The boundary encompasses the compact built-up area, with deliberate outward extensions toward the northeast and southwest to facilitate structured expansion. It aligns with key access roads and avoids encroachment into sensitive or agriculturally intensive zones. The boundary was drawn to support future municipal infrastructure expansion while accommodating expected population growth and urban functions, ensuring ease of service delivery and spatial continuity. At the north side, the boundary incorporates the river bed following first the existing VC Mama Khel boundary and then the existing Naurang TC boundary to the south direction till the reaches the Narabad Samnabad Begu Khel VC boundary. From this point, the boundary then shifts westwards to follow the local road crossing the primary Bannu-D.I. Khan Road till it reaches the west most point of the boundary. From here onwards, the proposed planning boundary follows the Tehsil/Distrct boundary again intersecting the Bannu-D.I. Khan road till it the reaches the starting point across the River Kurram in the north. The below **Map** shows the proposed planning boundary of Sarai Naurang urban center.



Map 1-21: Sarai Naurang urban center proposed planning boundary

1.6.7.4 Ghazni Khel

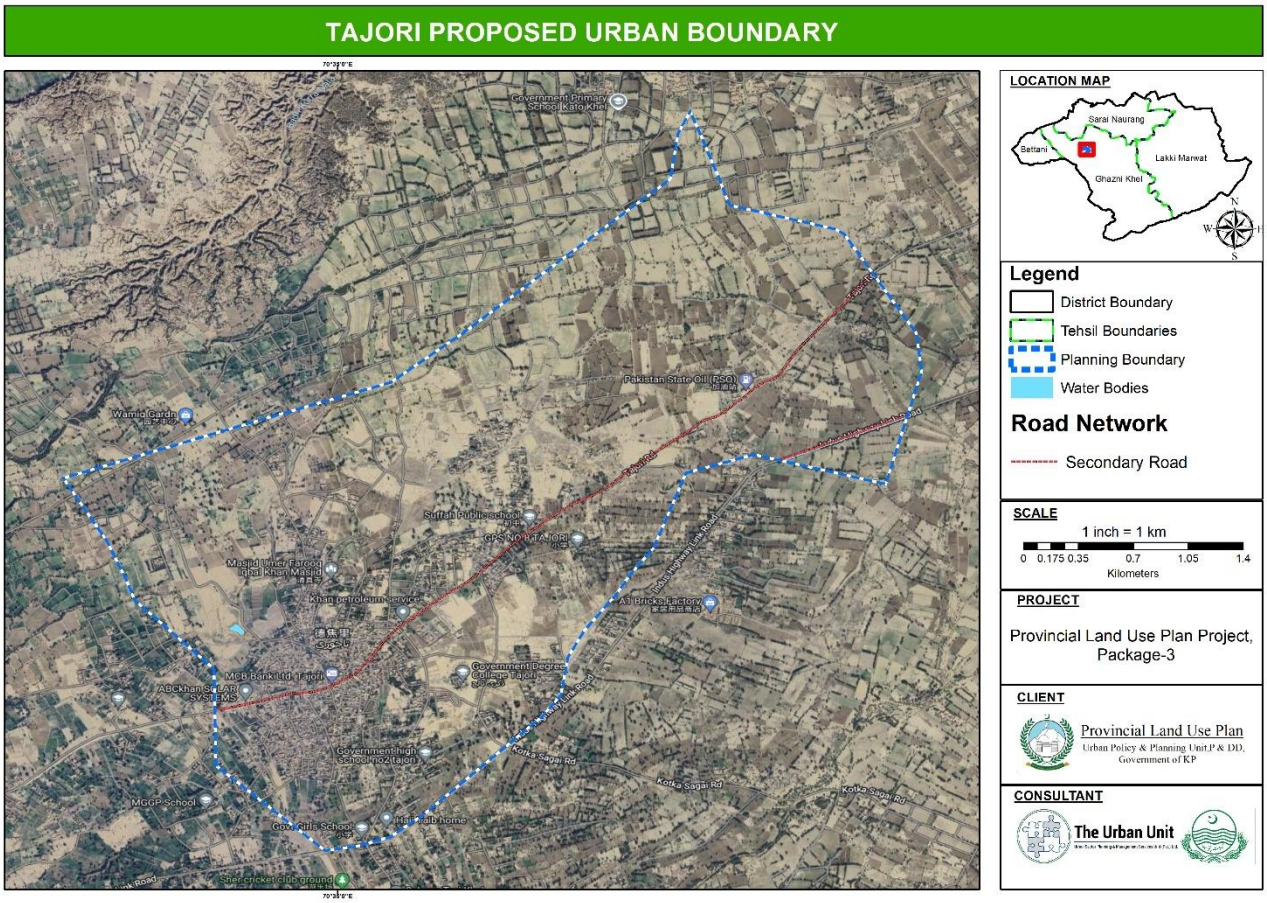
The delineation of the proposed urban boundary of Ghazni Khel has been carried out with a balanced consideration of the settlement's existing built-up area, surrounding agricultural fields, and transport infrastructure. The boundary begins in the northern section of the town, following the road corridor to accommodate concentrated development patterns and maintain connectivity. It then extends eastward passing through the Indus Highway (N-55) moving the border of agricultural fields. The boundary then shifts down in the South direction following a local road. After shifting to the eastern side, the boundary encompasses the Govt Polytechnic Institute intersecting the Indus Highway (N-55) again after which it follows the water body to the south and then taking a turn through the agricultural fields reaching the west most point of the boundary. From here onwards, the proposed planning boundary follows the existing VC boundary in the North to reach the starting point. This well-considered boundary supports the transformation of Ghazni Khel into a structured rural growth center while preserving critical agricultural land and maximizing infrastructure efficiency. The below **Map** shows the proposed planning boundary of Ghazni Khel urban center.



Map 1-22: Ghazni Khel urban center proposed urban center

1.6.7.5 Tajori

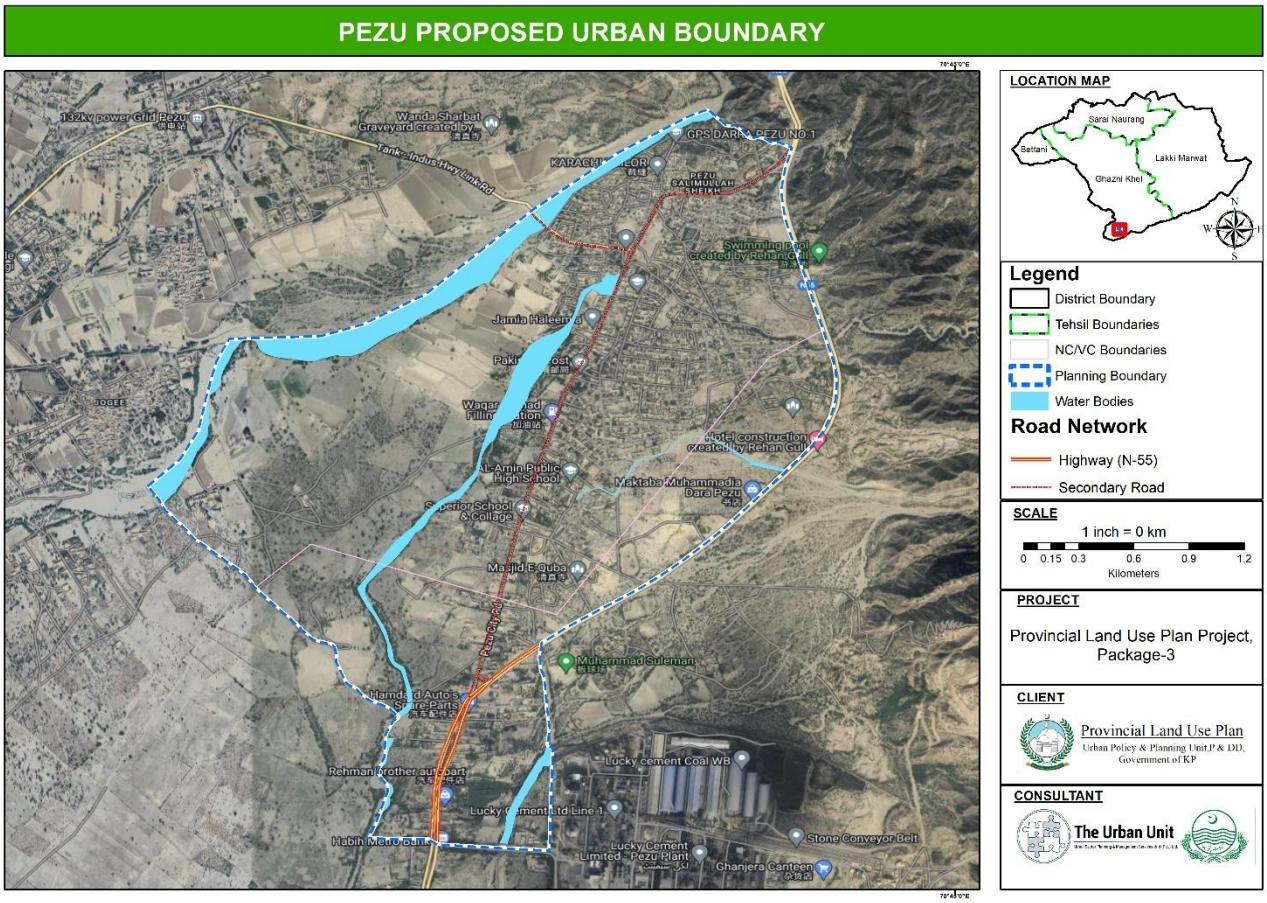
The Tajori VC boundary spans 932 hectares, and in the immediate vicinity to its west lies the Bettani Tehsil, which also supports the Tajori settlement. After meticulous analysis, the Tajori Urban boundary has been proposed just as the existing VC boundary. The proposed planning boundary has been selected as such after keeping in account a balanced consideration of the settlement's existing built-up area, surrounding agricultural fields, and transport infrastructure.



Map 1-23: Tajori urban center proposed planning boundary

1.6.7.6 Pezu

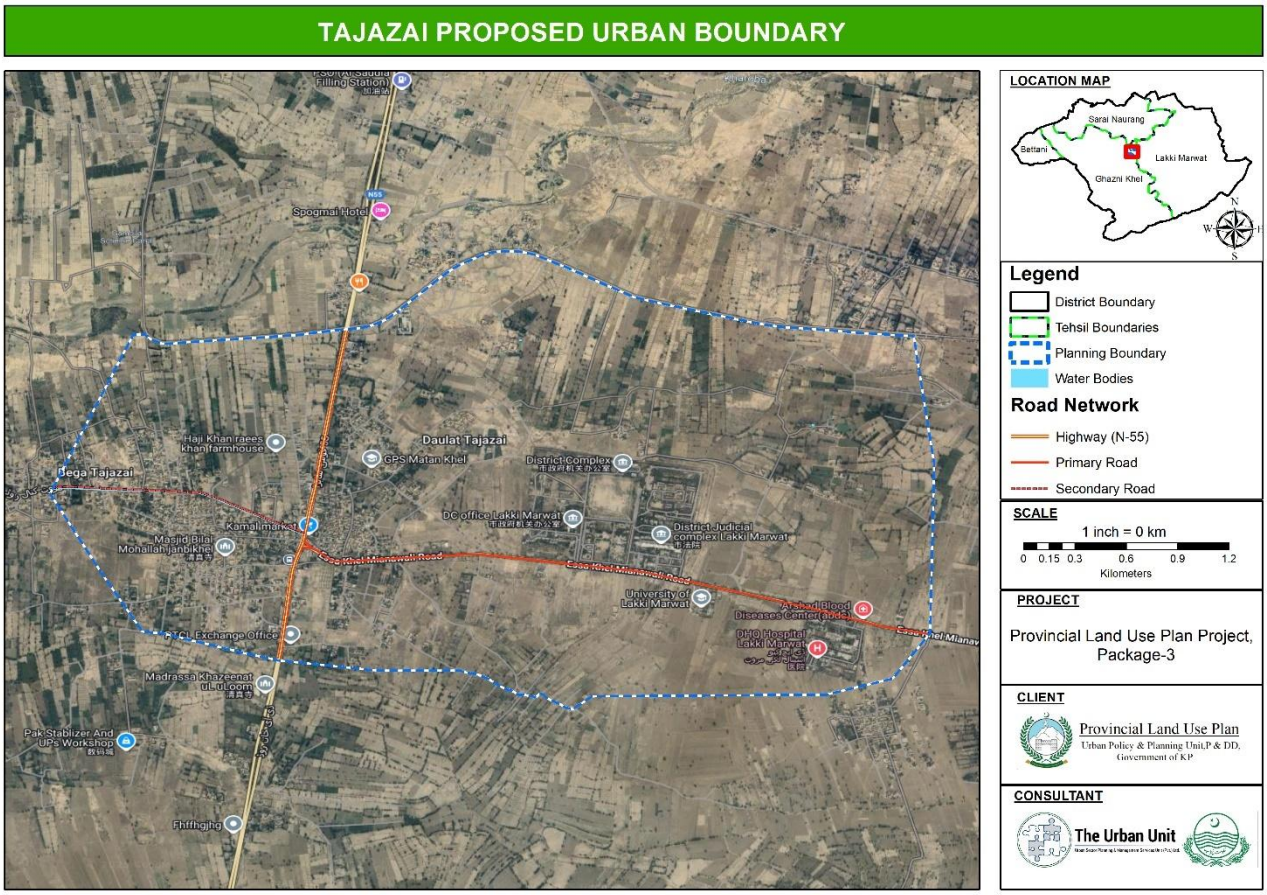
The proposed urban boundary of Pezu has been defined with due attention to the area's topographical conditions, economic significance, and growth potential. The boundary originates in the northern part of the settlement, enclosing the higher-density built-up area while respecting the natural slope of the adjacent hilly terrain. From this point, the boundary extends eastward, incorporating residential clusters and linear development along the main Indus Highway (N-55) that serves as the main access route into the settlement. Proceeding southward, the boundary spans a wide stretch of relatively flat land, identified as suitable for future urban development and essential public facilities, while ensuring adequate buffer from the adjacent industrial zone. The southern limit is strategically placed to allow for scalable expansion without encroaching on environmentally sensitive terrain following the edge of the existing Lucky Cement Factory. The boundary then shifts westward, tracing the edge of the accessible road before curving back toward the north following a water body and then moving to the left following a local road to reach the Pezu Nala. From here the boundary follows the Nala to the starting point clearly identifying the proposed urban boundary of Pezu urban center This urban boundary provides a clear framework for Pezu's future transformation into a rural growth center, promoting efficient land use, accessibility, and infrastructure integration.



Map 1-24: Pezu urban center proposed planning boundary

1.6.7.7 Tajazai

The proposed planning boundary has been carefully delineated with due consideration of the existing administrative boundaries, growth direction, compact built-up area, and future accommodations. At the north side, the boundary traverse along a water body/canal along a local road and cuts the Indus Highway. From the northeast corner, it extends along the Tehsil Boundary and crosses the Essa Khel to Mianwali Road, then takes a southward turn and runs along a local road, and again cuts the Indus Highway, leading towards the southwest corner. From here, it follows the existing VC boundary and crosses again the Essa Khel to Mianwali road, and leads back up to the north section.



Map 1-25: Tajazai urban center proposed planning boundary

1.6.8 Rural to Urban Transformation

To calculate the population within the proposed urban area, firstly, two sets of data were extracted from the Geographic Information System (GIS) landuse dataset which are following:

- Residential land use area of the relevant administrative units such as Neighborhood Council (NC) or Village Council (VC)
- Residential land use area within the proposed urban boundary

Subsequently, the residential land use area within the proposed urban boundary was divided by the overall residential land use area of the respective NC or VC to obtain the ratio. This ratio was then multiplied by the total population of that NC or VC, allowing to estimate the population residing within the proposed urban boundary for the base year i.e. 2017. The equation below shows the formula to obtain the current population residing within the urban boundary:

$$\text{Current Urban Population} = \frac{\text{Residential area within urban boundary}}{\text{Total Residential area of NC/VC}} \times \text{Population of NC/VC}$$

Table 1-10: Population of Transitioning Areas to be Urbanized

Urban Center	Residential Area within Proposed Urban Boundary (Hectare)	Total NC/VC Residential Area (Hectare)	Population of NC/VC (2017)	Estimated Urban Population (2017)
Lakki Marwat MC	394.34	394.34	59465	59465
Dalo Khel II	14.94	100.14	4769	711
Lakki City (including MC & Dalo Khel II)	409.28	494.48	64234	60176
Landiwa I	12.19	58.39	4839	1010
Landiwa II	129.52	140.52	11952	11016

Urban Center	Residential Area within Proposed Urban Boundary (Hectare)	Total NC/VC Residential Area (Hectare)	Population of NC/VC (2017)	Estimated Urban Population (2017)
Landiwa (including Landiwa I & Landiwa II)	141.71	198.91	16791	12027
Sarai Naurang TC	228.89	228.89	29955	29955
Narabad Begu Khel	147.4	272.11	15468	8379
Mama Khel	111.94	111.94	9151	9151
Sarai Naurang (including TC, Narabad Begukhel & Mama Khel)	488.23	612.94	54574	47485
Dara Pezu I	92.37	167.4	3587	1979
Dara Pezu II	11.22	38.06	17809	5250
Pezu (Dara Pezu I & Dara Pezu II)	103.59	205.46	21396	7229
Ghazni Khel	76.42	159.18	9108	4373
Tajori	119.43	119.43	6535	6535
Tajazai	84.49	119.19	9133	9133

As per study requirement, population of District Karak has been projected for 20 years using the exponential population growth model, which is a robust technique for population forecasting. The formula of the exponential growth model, as well as the population projected, are given as under:

$$Pn = P0\,x\,(1 + r/100)\text{^}\,t$$

Where;

P_n =Population of desired year

P_0 = Population of base year

r = Population growth rate

t = Number of years

The estimated population of 2017 as calculated in **Table 1-10** above was then projected exponentially using the respective tehsil wise population growth rate for those areas which were previously rural whereas for existing urban area population growth rate between 1998-2017 census was used to obtain the population residing within the urban boundary in 2025. Based on the 2017 census growth rates, District Lakki Marwat's overall population is projected to reach 2,266,890 by 2045. The urban population is expected to be 367,347, and the rural population 1,899,545. At the tehsil level, rural populations for 2045 are projected as follows: Lakki Marwat – 477,457; Sarai Naurang – 677,671; Ghazni Khel – 558,300 and Bettani – 186,117.

The details of five-year interval projected population of District Lakki Marwat are given below in **Table** and graphically shown in **Figure**.

Table 1-11: Projected Population of District Lakki Marwat

Administrative Area	2017	2025	2030	2035	2040	2045
District Urban	147.893	191.618	225.376	26.5157	312.053	367,347
District Rural	754,648	974,615	1,146,760	1,352,719	1,600,314	1,899,545
District Overall	902,541	1,166,231	1,372,134	1,617,876	1,912,366	2,266,890
Urban						
Lakki Marwat	60176	79553	94718	112775	134278	159,882
Landiwa	12962	16116	18467	21160	24246	27,781
Serai Naurang	47485	62042	73339	86706	102521	121,237
Ghazni Khel	4373	5437	6230	7138	8179	9,372
Pezu	7229	8989	10300	11801	13522	15,495
Tajori	6535	8125	9310	10668	12224	14,006
Tajazai	9133	11356	13012	14909	17083	19,574
Rural						

Administrative Area	2017	2025	2030	2035	2040	2045
Tehsil Lakki Marwat	222772	276984	317377	363659	416691	477,457
Tehsil Serai Naurang	245026	327673	392950	471226	565098	677,671
Tehsil Ghazni Khel	260491	323884	371114	425233	487244	558,300
Tehsil Bettani	26359	46074	65319	92601	131281	186,117

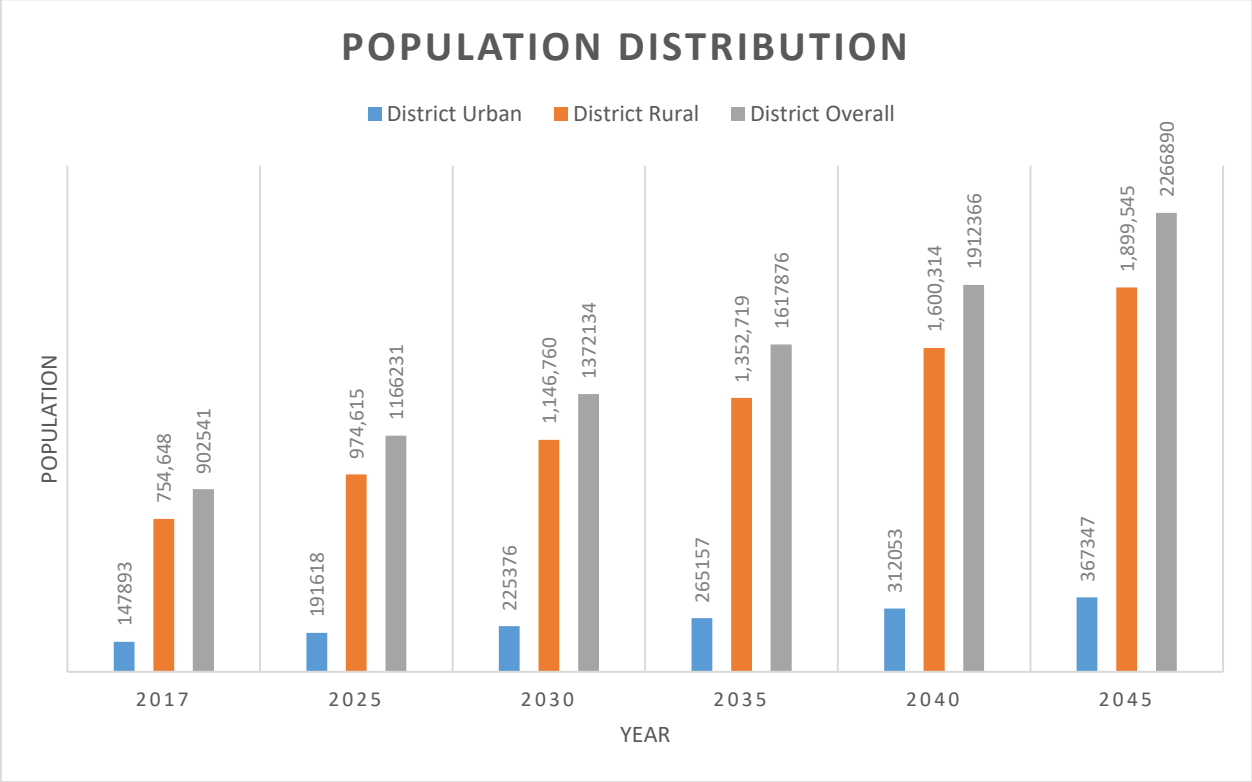


Figure 1-15: Population Projection for the plan period

1.7 Density of Planning Boundaries

Proposed urban boundaries have been delineated to ensure compact, high-density growth, optimize infrastructure, and control sprawl while protecting rural land. The identified proposed planning boundaries encompass five urban settlements within District Lakki Marwat. The population, population density (persons per hectare, PPH), and net housing density (housing units per hectare) indicate compact, planled growth. Lakki City remains the primary urban core, while the four urban centres experience proportional growth and step-ups in both PPH and net residential densities supporting efficient land use and staged housing supply through 2045.

Table 1-12: Density of Planning Boundaries

Urban Center	2025			2045		
	Population	Population Density	Net Current Housing Density (HU/Ha) *	Population	Population Density	Net Proposed Housing Density (HU/Ha) *
Lakki Marwat	79553	194	27	159,882	205	35
Serai Naurang	62042	127	11	121,237	210	30
Ghazni Khel	5437	71	12	9,372	150	20
Pezu	8989	87	31	15,494	245	35
Tajori	8125	68	23	14,006	160	25
Landiwa	14953	106	14	25776	190	25
Taja Zai	11356	134	15	19575	210	25

PPH = persons per hectare; HU/Ha = housing units per hectare

* Calculated using housing units 2025 divided by existing residential area

2. EXISTING LANDUSE DISTRIBUTION

Land, a fundamental resource integral to human sustenance and progress, has witnessed centuries of exploitation and transformation. In the context of District Lakki Marwat, land emerges as a fundamental resource essential for the well-being and progress of its communities. Over centuries, humanity has honed its understanding of land resources, navigating the delicate balance between finite resources and ever-growing human needs. This equilibrium is notably strained, evident in the challenges faced by the district's land. The pressing demands on land manifest in various ways, from diminishing crop yields to the depletion of both the quality and quantity of available land.

Agriculture, a cornerstone of land use, holds a pivotal role in sustaining the district's population. However, the encroachment of industrialization and urbanization, particularly in proximity to urban centers, presents a complex challenge. This encroachment poses threats to agricultural lands, impacting both ecosystems and socio-economic conditions within the district. As we delve into the existing land use/land cover pattern of District Lakki Marwat, the alterations in land use become apparent. Understanding this intricate relationship is crucial, especially in the context of population growth and its implications for food security, emerging as major concerns for the district's sustainable future.

2.1 Urban Centers

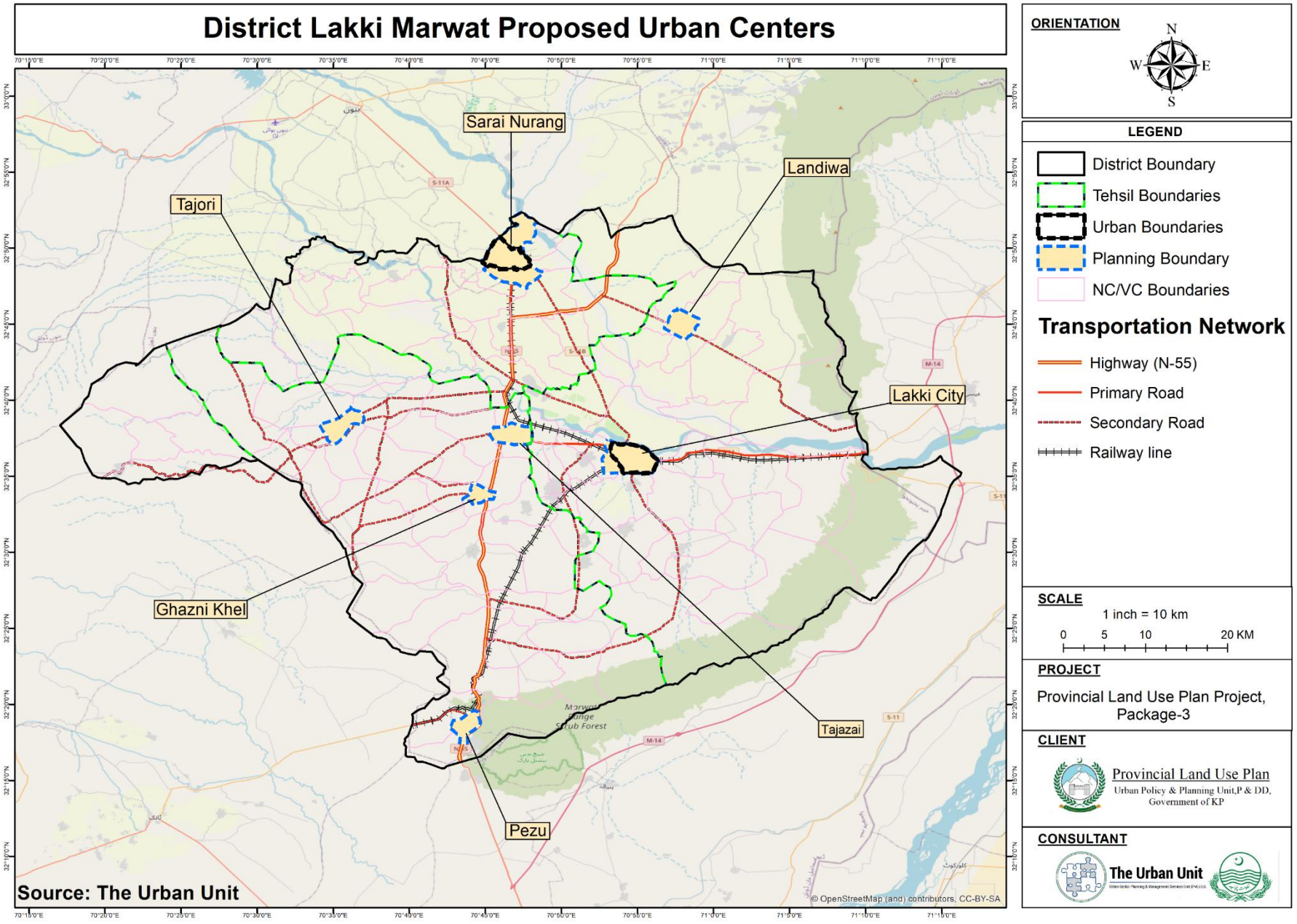
District Lakki Marwat comprises of seven urban centers, of which three are proposed for future development, while the existing municipal entity—currently functioning as the District Headquarters (DHQ)—holds a central role in the district's governance and urban dynamics coupled with Naurang Town Committee. The Lakki Marwat MC, alongside the Naurang TC, represents key nodes in the district's spatial development strategy. Additionally, the remaining tehsils also include significant proposed urban centers: Ghazni Khel, Tajori, Pezu and Tajazai in tehsil Ghazni Khel.

These urban centers, both existing and proposed, are integral to the district's urban framework, playing a critical role in shaping its land-use patterns, fostering economic activity, and promoting balanced regional growth. The strategic development of these centers is expected to enhance the district's connectivity, service delivery, and overall urban functionality, thereby driving the sustainable urbanization and long-term prosperity of Lakki Marwat.

In line with modern town planning principles, these proposed urban centers are designed to address the evolving socio-economic needs of the district, providing a balanced distribution of services and infrastructure while mitigating congestion in the existing urban areas. Together, these centers will significantly contribute to the spatial planning objectives, enhancing the liveability and resilience of Lakki Marwat's urban landscape. The Lakki Marwat City urban center covers **1751.1** hectares in Tehsil Lakki Marwat, while the area of Naurang urban center in tehsil Naurang is **3077.65** hectares. The Ghazni Khel urban Center spans **452.91** hectares of land, while the Tajori, Pezu and Tajazai urban center covers an area of about **932.7**, **649.5** and **871.61** hectares respectively. The unique dynamics of urban centers is paramount for the formulation of a comprehensive and effective land-use strategy tailored to the distinct characteristics of District Lakki Marwat. The **Table** below and **Map** present the details of the areas of the urban centers of District Lakki Marwat.

Table 2-1: District Lakki Marwat Urban Center

Tehsil	Urban Center	Area (ha)
Lakki Marwat	Lakki Marwat	1751.1
	Landiwa	811.81
Naurang	Naurang	3077.65
Ghazni Khel	Ghazni Khel	452.91
	Tajori	932.7
	Pezu	649.5
	Tajazai	871.61
	Total Urban Area	**8540.5**



Map 2-1: Proposed Urban Centers of District Lakki Marwat

2.2 District Land Use Distribution

District Lakki Marwat spans about 3398.92 sq. km of which the highest landuse is of Range land, which accounts for 1642.87 sq. km (48.34%) of land, followed by Agriculture with 881.62 sq. km (25.94%) of land occupation. This is indicative of agriculture being one of the main sources of income in the district. The landuse classification of district Lakki Marwat has been categorized below:

Residential and Commercial

The residential land use covers an area of 107.49 sq. km, constituting 3.16% of the total district land. This includes various housing and living spaces catering to the population's diverse needs; mixed-use zones offer a blend of residential and commercial 0.06 sq. km (0.002%) contributing to a vibrant urban environment. The commercial landscape, spanning 2.49 sq. km (0.07%) of the district, including areas designated for business and trade activities.

Concentrated Public Sector

Covering 3.70 sq. km of land, education plays a crucial role in fostering intellectual growth and development within the district. Health facilities, occupying 0.44 sq. km provides essential services to the community, ensuring the well-being of residents. Public Buildings and Civic Amenities encompassing 1.05 sq. km serves as a hub for civic engagement and public services, enhancing the overall quality of life. With an area of 0.41 sq. km, religious buildings contribute to the cultural and spiritual landscape of the district. Recreation, totaling 1.64 sq. km of area, offer recreational opportunities, and contribute to the district's environmental sustainability.

Industrial

Scattered industries distributed across occupy 8.04 sq. km of area, respectively complementing the industrial landscape of the district by promoting economic diversity.

Physical Landscape

Extending over a vast area of 881.62 sq. km, agriculture remains a pivotal component of the District Lakki Marwat landscape, contributing significantly to the local economy and sustenance. The expansive range land covering 1642.87 sq. km defines a substantial portion of the district, characterized by natural vegetation and serving various ecological functions. Encompassing 7.30, & 317.25 sq. km, the Forest land and Plantation areas contribute to biodiversity conservation, supporting a rich ecosystem within the district. The barren land, spanning 244.34 sq. km represents areas with limited vegetation, presenting both challenges and opportunities for sustainable land use planning. District Lakki Marwat is adorned with water bodies covering 138.01 sq. km, enhancing scenic beauty and providing essential resources. Orchards, occupying 2.38 sq. km, contributes little to the district's agricultural diversity, providing fruits and economic opportunities.

Other Land Uses

Graveyards, covering 4.79 sq. km, serve as solemn spaces for final resting, integrated into the district's cultural and social fabric. Spanning 12.83 sq. km, vacant areas represent potential spaces for future development, requiring careful consideration in land use planning.

Notified Area

The Military Land/Cantonment class which have been classified as a Notified area, occupies 0.74 sq. km of area.

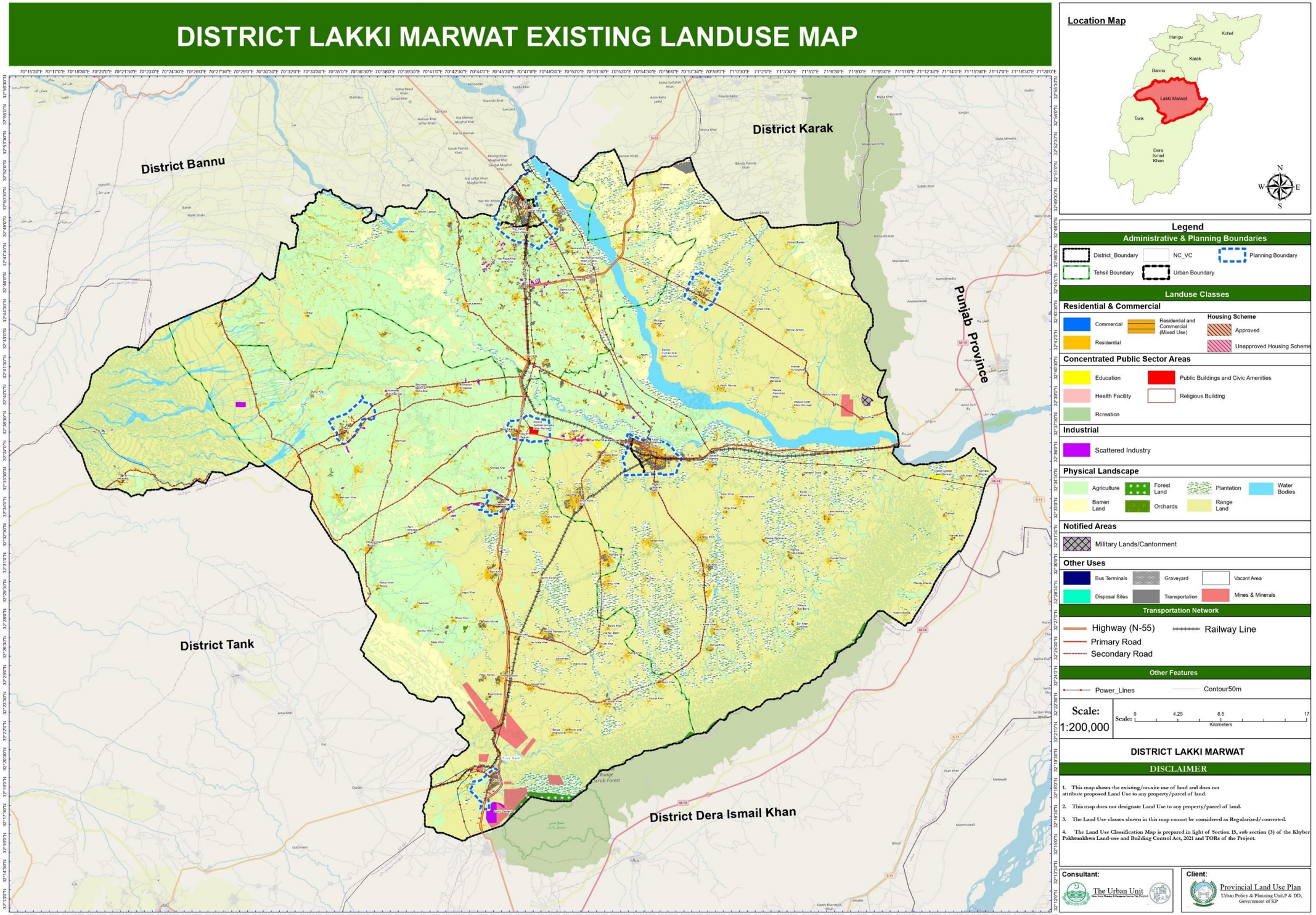
Transportation

The extensive road network, covering 20.38 sq. km facilitates connectivity and accessibility, playing a crucial role in the district's transportation infrastructure. Bus terminals throughout the district account for 0.02 sq. km of area located at various areas across the district.

The details of existing landuse distribution in District Lakki Marwat have been given in the **Table** below followed by a **Map** visualizing the landuse.

Table 2-2: District Lakki Marwat Existing Landuse Distribution

Landuse	Area (sq. km)	Percentage
Agriculture	881.62	25.94%
Barren Land	244.34	7.19%
Bus Terminals	0.02	0.001%
Commercial	2.49	0.07%
Disposal Sites	0.01	0.0004%
Education	3.70	0.11%
Forest Land	7.30	0.21%
Graveyard	4.79	0.14%
Health Facility	0.44	0.01%
Military Lands/Cantonment	0.74	0.02%
Orchards	2.38	0.07%
Recreation	1.64	0.05%
Plantation	317.25	9.33%
Public Buildings and Civic Amenities	1.05	0.03%
Railway	1.06	0.03%
Range Land	1642.87	48.34%
Religious Building	0.41	0.01%
Residential	107.49	3.16%
Residential and Commercial (Mixed Use)	0.06	0.002%
Scattered Industry	8.04	0.24%
Transportation	20.38	0.60%
Vacant Area	12.83	0.38%
Water Bodies	138.01	4.06%
Grand Total	**3398.92**	**100%**



Map 2-2: District Lakki Marwat Existing Landuse Classification

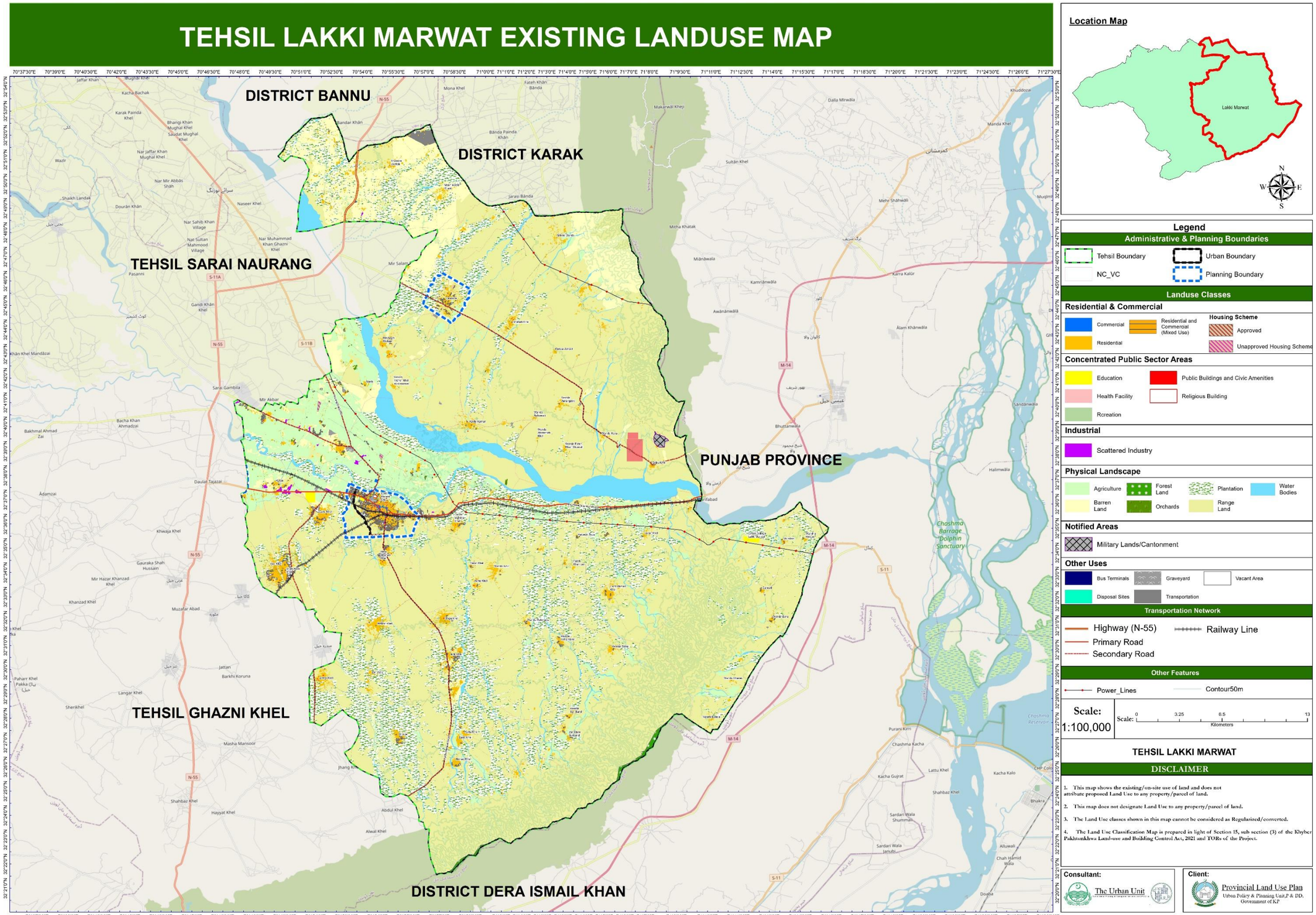
2.3 Tehsil Land Use Distribution

2.3.1 Tehsil Lakki Marwat

Tehsil Lakki Marwat encompasses a total area of 1427 sq. km. The largest individual land use category within this tehsil is Rangeland, which occupies 877.52 sq. km or 61.5% of the total area. Barren land use holds a substantial share at 6.81%, covering 97.15 sq. km. Plantation, a key landuse, accounts for 221 sq. km constituting 15.5% of the total area. 36.23 sq. km of land is occupied by residential purpose accounting to 2.54% of the total area. The **Table** below provides a comprehensive land use statistics for the region, while the accompanying **Map** offers a detailed view of land use distribution within Tehsil Lakki Marwat.

Table 2-3: Tehsil Lakki Marwat Existing Landuse Statistics

Landuse	Area (sq. km)	Percentage
Agriculture	110.20	7.72%
Barren Land	97.15	6.81%
Bus Terminals	0.01	0.0004%
Commercial	0.67	0.05%
Disposal Sites	0.002	0.00%
Education	1.96	0.14%
Forest Land	1.87	0.13%
Graveyard	1.48	0.10%
Health Facility	0.11	0.01%
Housing Scheme	0.10	0.01%
Military Lands/Cantonment	0.74	0.05%
Orchards	0.48	0.03%
Recreation	0.53	0.04%
Plantation	221.00	15.49%
Public Buildings and Civic Amenities	0.11	0.01%
Railway	0.46	0.03%
Range Land	877.52	61.49%
Religious Building	0.19	0.01%
Residential	36.23	2.54%
Residential and Commercial (Mixed Use)	0.01	0.001%
Scattered Industry	0.85	0.06%
Transportation	6.97	0.49%
Vacant Area	4.76	0.33%
Water Bodies	63.60	4.46%
Grand Total	**1427**	**100%**



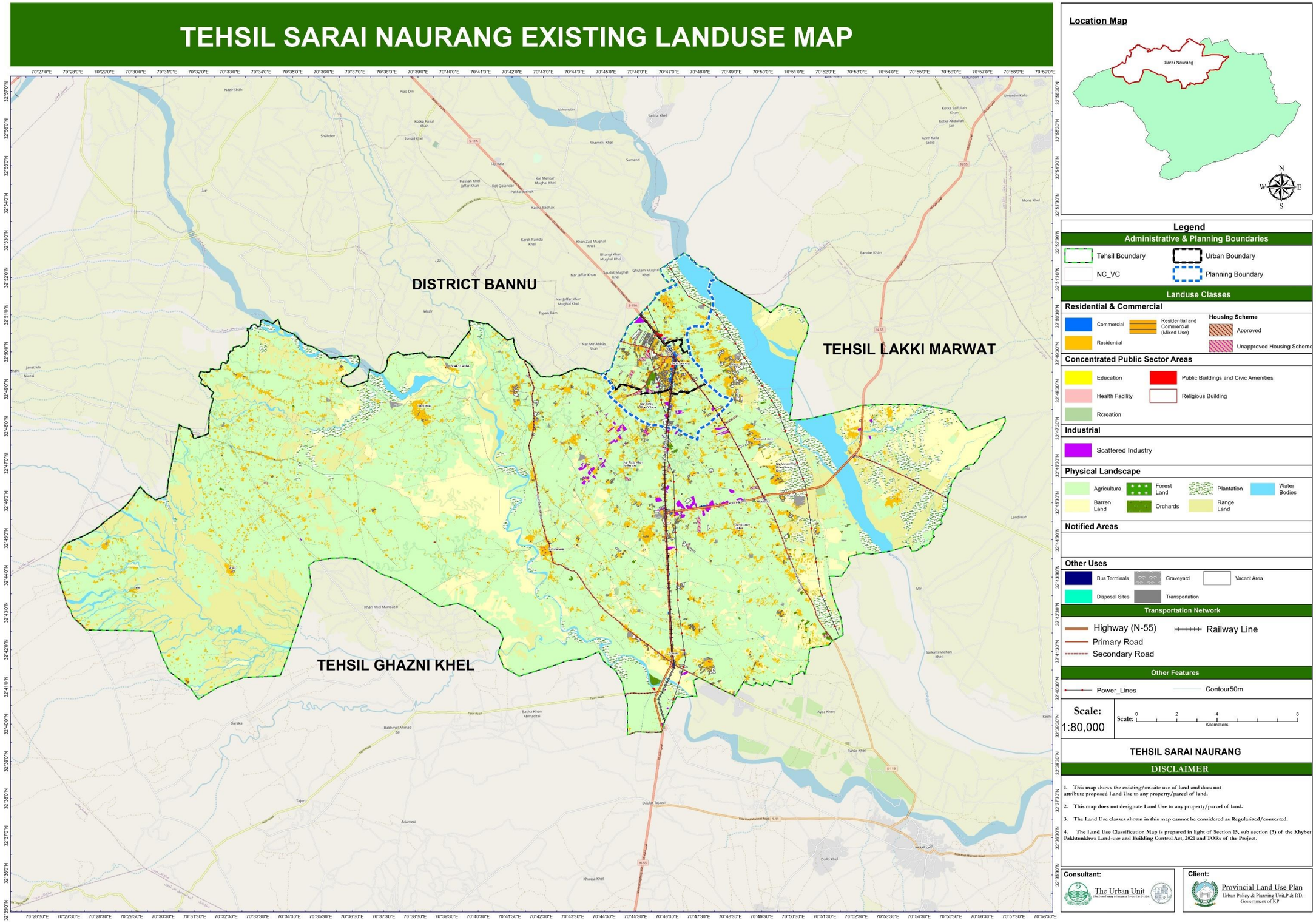
Map 2-3: Tehsil Lakki Marwat Existing Landuse Classification

2.3.2 Tehsil Sarai Naurang

Tehsil Sarai Naurang encompasses a total land area of 580.07 sq. km, with a predominant focus on agriculture, which constitutes 58.35% of the total area, or approximately 339 sq. km. Rangeland follows with 75.95 sq. km, accounting for 13.1% of the tehsil's overall area. Barren land constitutes 55.56 sq. km (9.58%) of the total area, while residential land occupies 33.31 sq. km (5.74%) of total area. The land use statistics presented in the below **Table** and **Map** provide a comprehensive view of the spatial distribution and functional zoning within Tehsil Sarai Naurang.

Table 2-4: Tehsil Sarai Naurang Existing Landuse Statistics

Landuse	Area (sq. km)	Percentage
Agriculture	338.47	58.35%
Barren Land	55.56	9.58%
Bus Terminals	0.012	0.002%
Commercial	0.82	0.14%
Disposal Sites	0.007	0.001%
Education	0.66	0.11%
Forest Land	0.0455	0.01%
Graveyard	1.59	0.27%
Health Facility	0.069	0.01%
Orchards	1.15	0.20%
Recreation	0.43	0.07%
Plantation	29.41	5.07%
Public Buildings and Civic Amenities	0.198	0.03%
Railway	0.11	0.02%
Range Land	75.95	13.09%
Religious Building	0.078	0.01%
Residential	33.31	5.74%
Residential and Commercial (Mixed Use)	0.005	0.001%
Scattered Industry	1.836	0.32%
Transportation	6.028	1.04%
Vacant Area	4.716	0.81%
Water Bodies	29.60	5.10%
Grand Total	**580.07**	**100%**



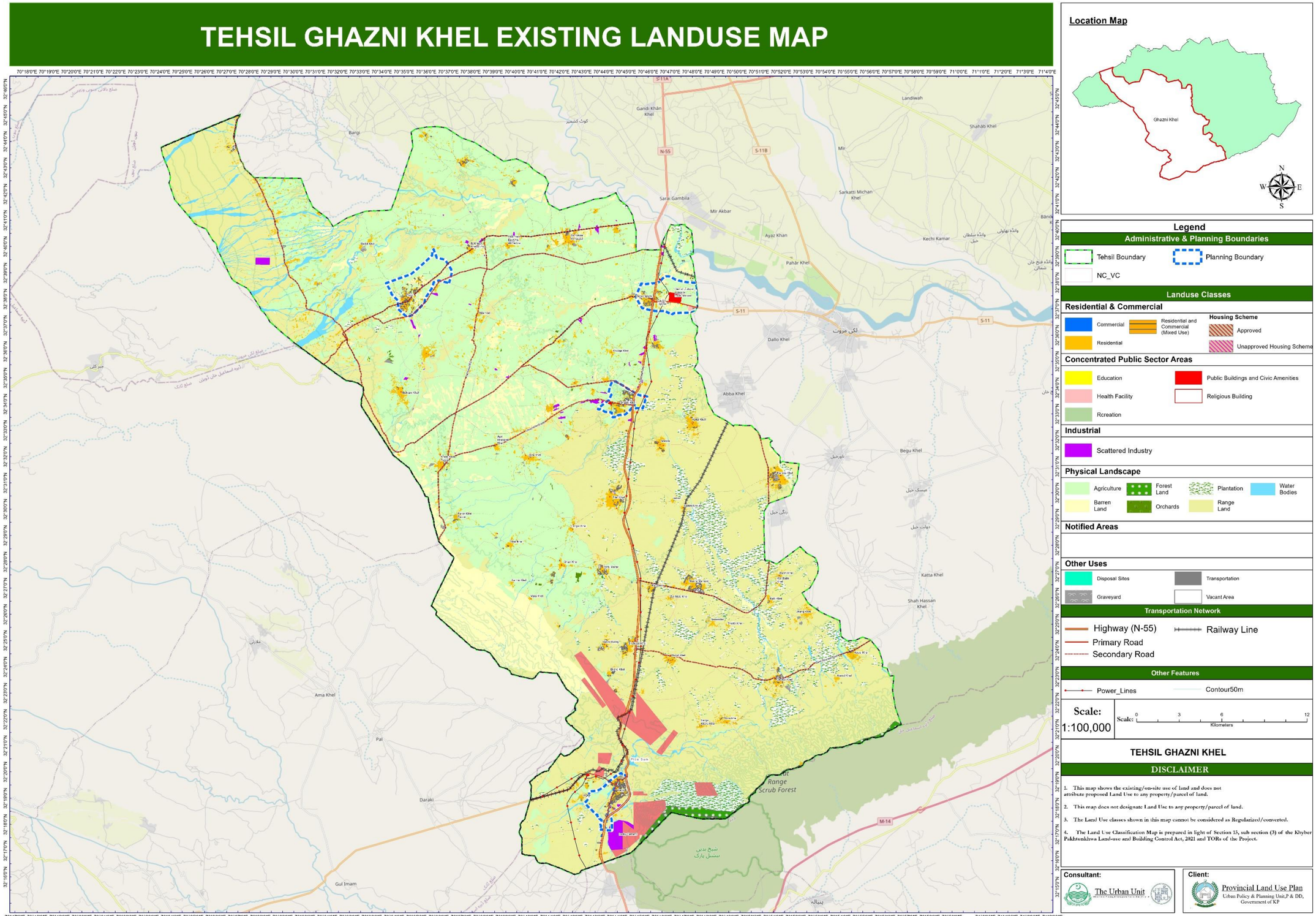
Map 2-4: Tehsil Sarai Naurang Existing Landuse Classification

2.3.3 Tehsil Ghazni Khel

Tehsil Ghazni Khel encompasses a total land area of 1205.2 sq. km, with a predominant focus on Rangeland and agriculture which accounts for 527.55 (43.77%) and 428.52 sq. km (35.56%) of total tehsil area. Barren land follows with 90.89 sq. km accounting for 7.54% % of the tehsil's overall area. Plantation constitutes 66.44 sq. km (5.51%) of the total area, while residential occupies 36.99 sq. km (3.07%). Below **Table** summarizes the landuse classification of Tehsil Ghazni Khel followed by **Map** visualizing it.

Table 2-5: Tehsil Ghazni Khel Existing Landuse Statistics

Landuse	Area (sq. km)	Percentage
Agriculture	428.52	35.56%
Barren Land	90.89	7.54%
Commercial	0.99	0.08%
Disposal Sites	0.003	0.0003%
Education	1.01	0.08%
Forest Land	5.38	0.45%
Graveyard	1.69	0.14%
Health Facility	0.25	0.02%
Orchards	0.75	0.06%
Recreation	0.68	0.06%
Plantation	66.44	5.51%
Public Buildings and Civic Amenities	0.75	0.06%
Railway	0.49	0.04%
Range Land	527.55	43.77%
Religious Building	0.14	0.01%
Residential	36.98	3.07%
Residential and Commercial (Mixed Use)	0.04	0.004%
Scattered Industry	5.29	0.44%
Transportation	7.15	0.59%
Vacant Area	3.14	0.26%
Water Bodies	27.05	2.24%
Grand Total	**1205.19**	**100%**



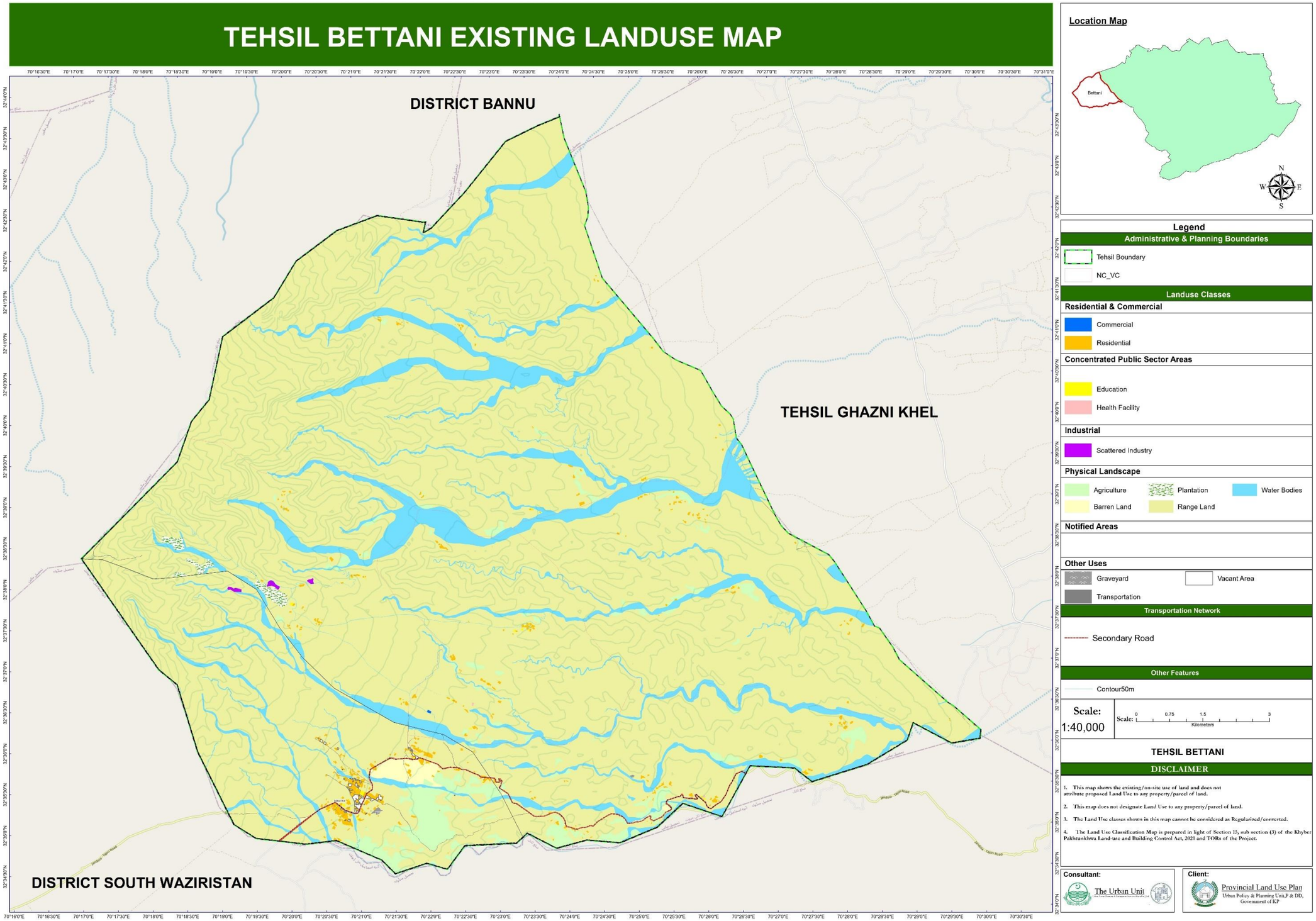
Map 2-5: Tehsil Ghazni Khel Existing Landuse Classification

2.3.4 Tehsil Bettani

Tehsil Bettani formerly known as the Frontier Region Lakki Marwat is the smallest tehsil among all and encompasses a total land area of 186.66 sq. km, with a predominant landuse occupation of Rangeland, which constitutes 86.71% of the total area, or approximately 161.85 sq. km. The Second most occupied landuse is water bodies which accounts for 17.75 sq. km (9.51%%) of the tehsil's overall area. Details of landuse classification statistics are provided below in **Table** followed by landuse classification **Map**.

Table 2-6: Tehsil Bettani Existing Landuse Statistics

Landuse	Area (sq. km)	Percentage
Agriculture	4.43	2.37%
Barren Land	0.74	0.40%
Commercial	0.005	0.003%
Education	0.07	0.04%
Graveyard	0.025	0.01%
Health Facility	0.01	0.005%
Plantation	0.41	0.22%
Range Land	161.85	86.71%
Residential	0.97	0.52%
Scattered Industry	0.06	0.03%
Transportation	0.23	0.12%
Vacant Area	0.11	0.06%
Water Bodies	17.75	9.51%
Grand Total	**186.66**	**100%**



Map 2-6: Tehsil Bettani Existing Landuse Classification

2.4 Urban Centers Land Use Distribution

District Lakki Marwat unfolds its unique urban land use distribution across various key areas. The urban fabric within the district is a dynamic amalgamation of residential, commercial, industrial, and recreational spaces, each contributing to the vibrancy and functionality of the urban environment. District Lakki Marwat comprises of seven proposed urban Centers, two of which are already urban, while the other five are proposed for future urban development. The already designated urban center, located within Tehsil Lakki Marwat, serves as the district headquarters, acting as the administrative and economic hub of the region. Among the five proposed urban centers, Landiwa lies within Tehsil Lakki Marwat, reflecting its centrality in the district's urban framework. The remaining four proposed urban Centers of Ghazni Khel, Tajori, Pezu and Tajazai lie in Tehsil Ghazni Khel with each playing a crucial role in the decentralization of urban services and fostering balanced regional development.

This strategic distribution of both existing and proposed urban centers highlights the district's forward-looking approach to urbanization, aimed at addressing the growing demand for infrastructure, housing, and public services. The proposed urban centers are critical for guiding future land use planning, improving connectivity, and promoting sustainable development throughout District Lakki Marwat. By expanding and formalizing these proposed centers, the district aims to enhance economic activity, provide better access to services, and support the overall growth of the region in a structured and organized manner.

2.4.1 Lakki Marwat City

Lakki Marwat City urban center is currently undergoing significant expansion, predominantly extending towards Dalo Khel-II VC in the West. This growth trajectory reflects the increasing urbanization and the spillover effects of Lakki Marwat's central urban core. The urban center of LakkI Marwat city serves as a vital hub for essential facilities and services across the entire district, playing a crucial role in driving regional development. Covering a total area of 1751.1 hectares, its land use reflects a variety of functions that define its urban structure and support its economy.

The land use analysis of Lakki Marwat City reveals that the majority of the area is occupied by rangeland, covering 40.59% (710.76 ha), totally outside the compact built-up area. Residential areas account for the second-largest share at 23.37% (409.25 ha), followed by vacant area with 10.23% (179.2 ha). Agriculture occupies 168.45 ha of land accounting for 9.62% of the total area.

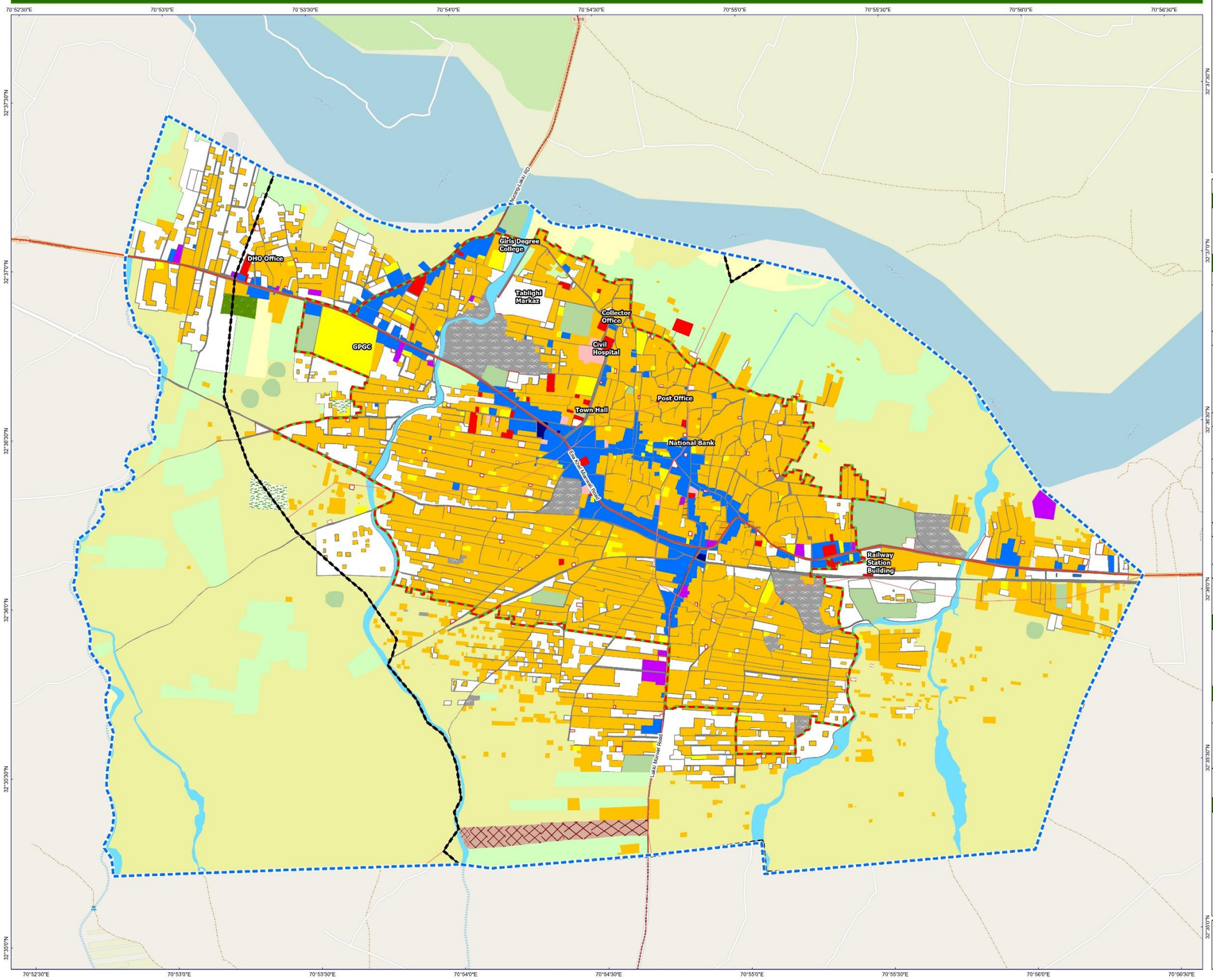
These land-use patterns highlight Lakki Marwat's strategic role in balancing urban growth with agricultural sustainability while identifying opportunities for future development and enhanced infrastructure. The detailed land use statistics of compact built-up and outside compact built-up are shown below in **Table** and **Map**.

Table 2-7: Lakki Marwat City Existing Landuse Statistics (hectares)

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Agriculture	2.96	165.49	168.45	9.62%
Barren Land		18.87	18.87	1.08%
Bus Terminals	0.52		0.52	0.03%
Commercial	41.97	5.76	47.74	2.73%
Dumping Site		0.16	0.16	0.01%
Education	19.85	2.51	22.36	1.28%
Graveyard	24.21	5.12	29.33	1.67%
Health Facility	2.42		2.42	0.14%
Orchards		2.08	2.08	0.12%
Recreation	7.69	20.00	27.69	1.58%
Plantation		3.62	3.62	0.21%
Public Buildings and Civic Amenities	4.86	1.28	6.14	0.35%
Range Land	0.00	710.76	710.76	40.59%
Religious Building	8.21	3.45	11.65	0.67%
Residential	289.60	119.65	409.25	23.37%

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Residential and Commercial (Mixed Use)	0.94		0.94	0.05%
Scattered Industry	1.43	3.92	5.35	0.31%
Transportation	43.76	23.23	66.99	3.83%
Vacant Area	47.42	131.78	179.20	10.23%
Water Bodies	5.12	32.44	37.55	2.14%
Grand Total	**500.97**	**1250.11**	**1751.08**	**100%**

LAKKI CITY URBAN CENTRE EXISTING LANDUSE MAP



Location Map

Legend

Administrative & Planning Boundaries

- NC/VC Boundaries
- Planning Boundary
- Urban Boundary
- Compact Builtup Area

Landuse Classes

Residential & Commercial

- Commercial
- Residential and Commercial (Mixed Use)
- Residential
- Approved Housing Schemes

Concentrated Public Sector Areas

- Education
- Public Buildings and Civic Amenities
- Health Facility
- Religious Building
- Recreation

Industrial

- Scattered Industry

Physical Landscape

- Agriculture
- Orchards
- Range Land
- Barren Land
- Plantation
- Water Bodies

Notified Areas

Other Uses

- Bus Terminals
- Transportation
- Graveyard
- Vacant Area

Transportation Network

- Primary Road
- Secondary Road

Other Features

Scale: 1:10,000

Scale: 0 0.275 0.55 1.1 Kilometers

Lakki City Urban Centre

DISCLAIMER

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4. The Land Use Classification Map is prepared in light of Section 15, sub section (3) of the Khyber Pakhtunkhwa Land-use and Building Control Act, 2021 and TORs of the Project.

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit, P & DD, Government of KP

Map 2-7: Existing Landuse Classification of Lakki Marwat City

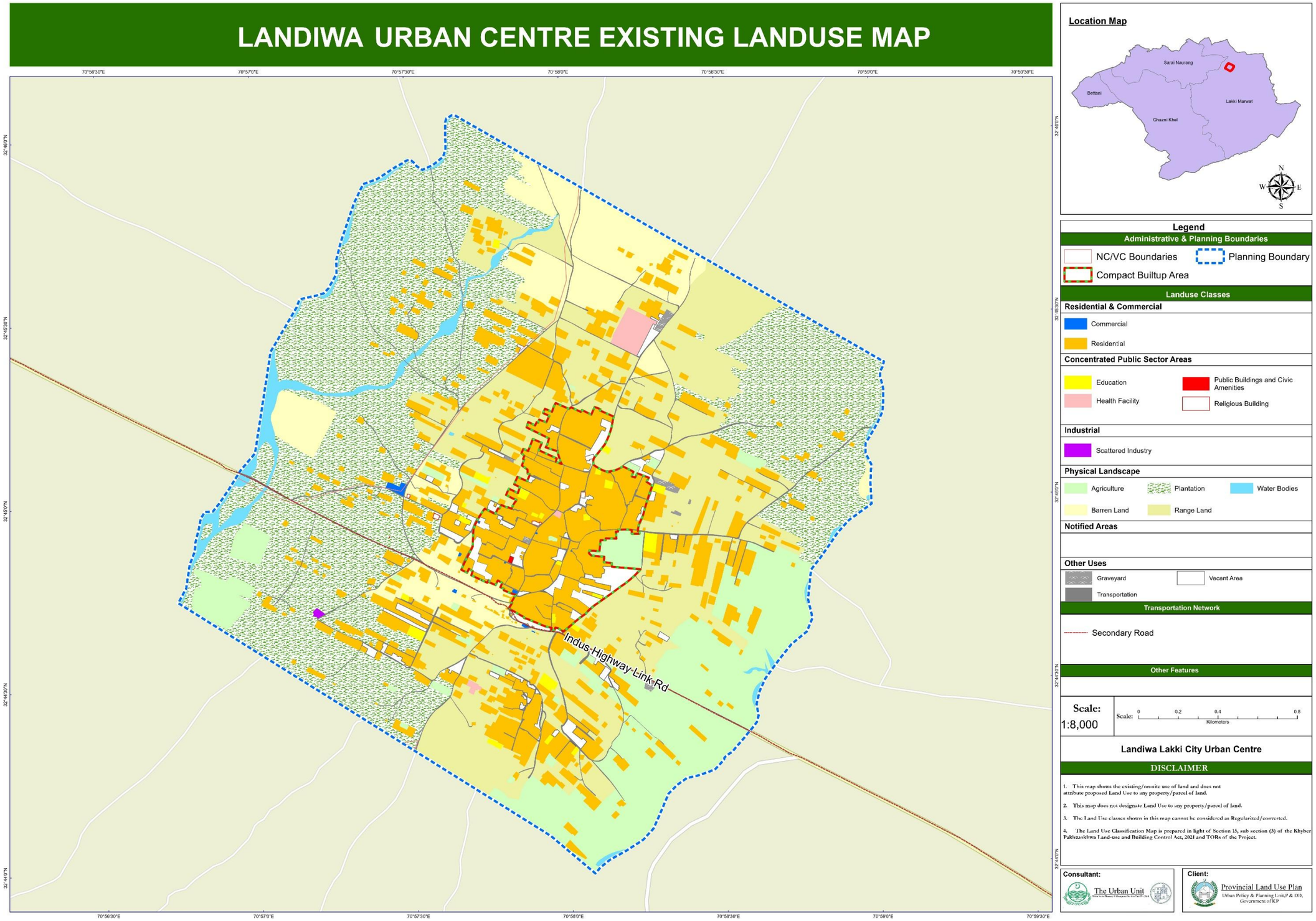
2.4.2 Landiwa

In Landiwa urban center, the major land use is plantation, covering 34.35% (278.81 ha), totally outside the compact built-up area. Range land follows with 20.54% (166.75 ha), indicating a large portion of unused or undeveloped land. Residential areas make up 17.46% (141.71 ha), showing a moderate level of urban settlement. Other notable land uses include agriculture landuse at 12.27% and barren land occupying 7.78% of the total area contributing to the mixed urban-rural nature of the area.

Overall, the landuse statistics reveals a semi-urban environment where rangeland, agriculture and residential dominate, with moderate investment in infrastructure and limited urban sprawl. This balance reflects a transitional landscape with significant rural roots and emerging urban characteristics. Detail of land use classification is shown in **Table** and **Map**.

Table 2-8: Landiwa Urban Center Existing Landuse Statistics (hectares)

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Agriculture	0.09	99.47	99.56	12.27%
Barren Land		63.19	63.19	7.78%
Commercial	0.09	0.52	0.61	0.08%
Education	0.96	3.10	4.06	0.50%
Graveyard	0.11	1.36	1.46	0.18%
Health Facility	0.10	3.38	3.48	0.43%
Plantation		278.81	278.81	34.35%
Public Buildings and Civic Amenities	0.07	0.00	0.08	0.01%
Range Land		166.75	166.75	20.54%
Religious Building	0.24	0.10	0.33	0.04%
Residential	47.52	94.19	141.71	17.46%
Scattered industry		0.18	0.18	0.02%
Transportation	3.37	16.29	19.66	2.42%
Vacant Area	7.81	7.86	15.67	1.93%
Water Bodies		16.24	16.24	2.0%
Grand Total	**60.36**	**751.35**	**811.71**	**100%**



Map 2-8: Existing Landuse Classification of Landiwa urban center

2.4.3 Sarai Naurang

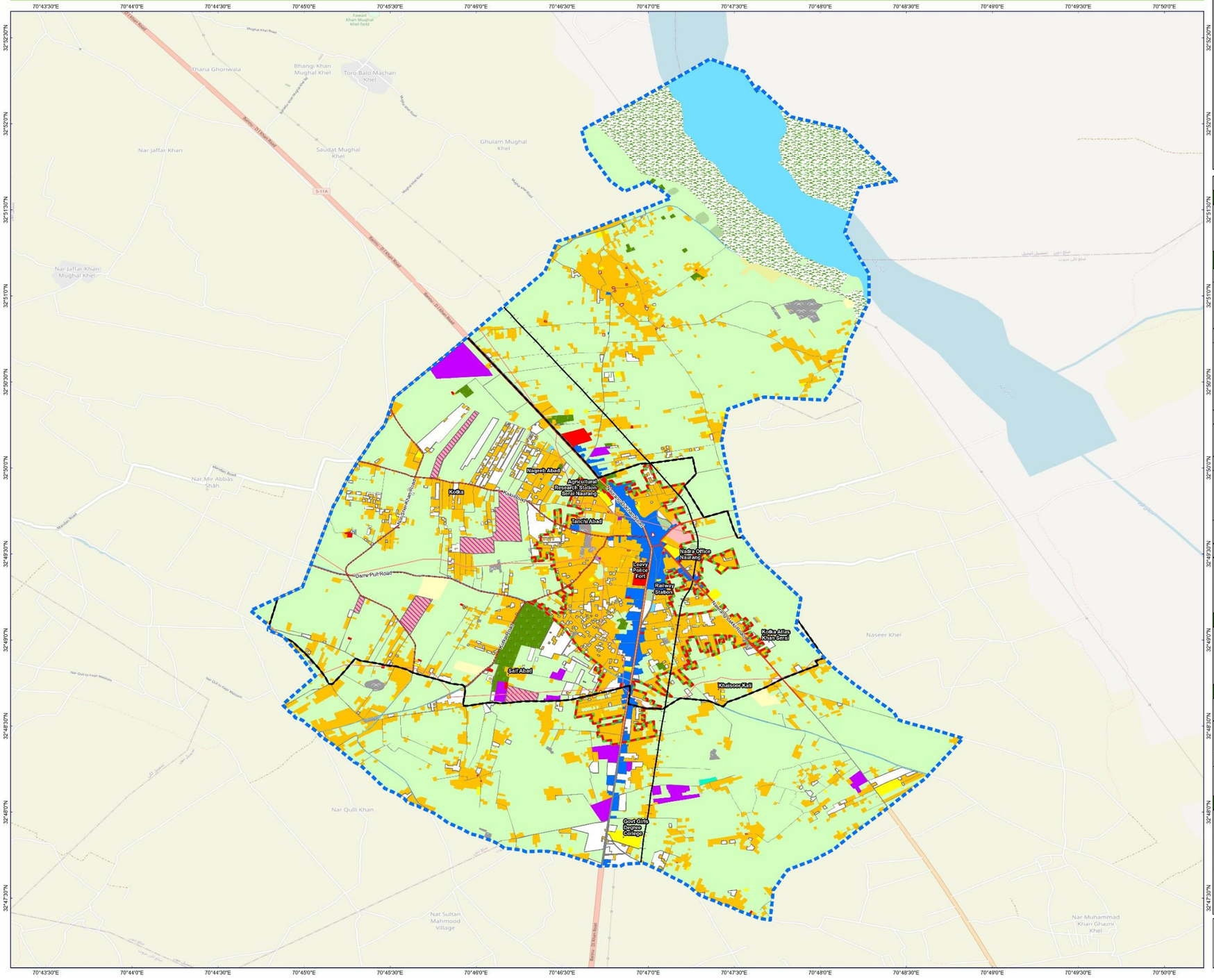
Sarai Naurang in Tehsil Naurang which is already an urban area however due to the growing population and increasing demand for urban services, Naurang urban boundary has been proposed to expand during the plan period. In Naurang urban center, agriculture is the most dominant land use, occupying 1819.26 ha (59.14%), which makes up a substantial portion of the area, primarily outside the compact built-up limits. Residential land follows with 491 ha (15.9%), reflecting notable urban settlement. Other significant uses include vacant land at 163.02 ha (5.31%), and transportation infrastructure covering 80.13 ha (2.61%). These patterns indicate that while agriculture remains the primary land use, residential growth and infrastructure development are gradually shaping the urban form of Naurang.

Considering its land-use profile, Naurang is well-positioned to accommodate future urbanization. Integrating this area into the urban framework of Naurang Tehsil can help decongest Naurang TC by providing alternative space for housing, commercial activities, and civic amenities, and support regional growth through sustainable urban planning. The detailed landuse the detailed land use statistics of compact built-up and outside compact built-up is shown in **Table** and **Map.**

Table 2-9: Sarai Naurang Urban Center Existing Landuse Statistics (hectare)

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Agriculture	15.65	1803.62	1819.26	59.11%
Barren Land		11.64	11.64	0.38%
Commercial	39.66	6.80	46.46	1.51%
Disposal Sites		0.73	0.73	0.02%
Education	5.62	9.81	15.43	0.50%
Graveyard	4.16	11.17	15.33	0.50%
Health Facility	3.88	0.11	3.99	0.13%
Orchards	1.38	26.64	28.03	0.91%
Recreation	1.74	4.04	5.79	0.19%
Plantation		186.17	186.17	6.06%
Public Buildings and Civic Amenities	3.56	4.53	8.08	0.26%
Railway		0.08	0.08	0.002%
Range Land		4.75	4.75	0.15%
Religious Building	0.63	0.90	1.53	0.05%
Residential	157.48	333.70	491.18	15.95%
Residential and Commercial (Mixed Use)	0.51		0.51	0.02%
Scattered Industry	0.15	31.03	31.18	1.02%
Transportation	0.79	79.33	80.13	2.61%
Vacant Area	31.88	131.14	163.02	5.31%
Water Bodies	0.46	163.11	163.57	5.33%
Grand Total	**267.55**	**2803.35**	**3070.90**	**100%**

SARAI NAURANG URBAN CENTRE EXISTING LANDUSE MAP



Location Map

Legend

Administrative & Planning Boundaries

- NC/VC Boundaries
- Proposed Urban Boundary
- Urban Boundary
- Compact Builtup Area

Landuse Classes

Residential & Commercial

- Commercial
- Residential and Commercial (Mixed Use)
- Residential
- Unapproved Housing Scheme

Concentrated Public Sector Areas

- Education
- Public Buildings and Civic Amenities
- Health Facility
- Religious Building
- Recreation

Industrial

- Scattered Industry

Physical Landscape

- Agriculture
- Orchards
- Range Land
- Barren Land
- Plantation
- Water Bodies

Notified Areas

Other Uses

- Graveyard
- Transportation
- Vacant Area
- Disposal Sites

Transportation Network

- Primary Road
- Secondary Road
- Railway line

Other Features

Scale: 1:20,000

Scale: 0 0.5 1 2 Kilometers

Sarai Naurang Urban Centre

DISCLAIMER

1. This map shows the existing/on-site use of land and does not attribute proposed Land Use to any property/parcel of land.
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4. The Land Use Classification Map is prepared in light of Section 15, sub section (3) of the Khyber Pakhtunkhwa Land-use and Building Control Act, 2021 and TORs of the Project.

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit,P & DD, Government of KP

Map 2-9: Existing Landuse Classification of Naurang Urban Center

2.4.4 Ghazni Khel

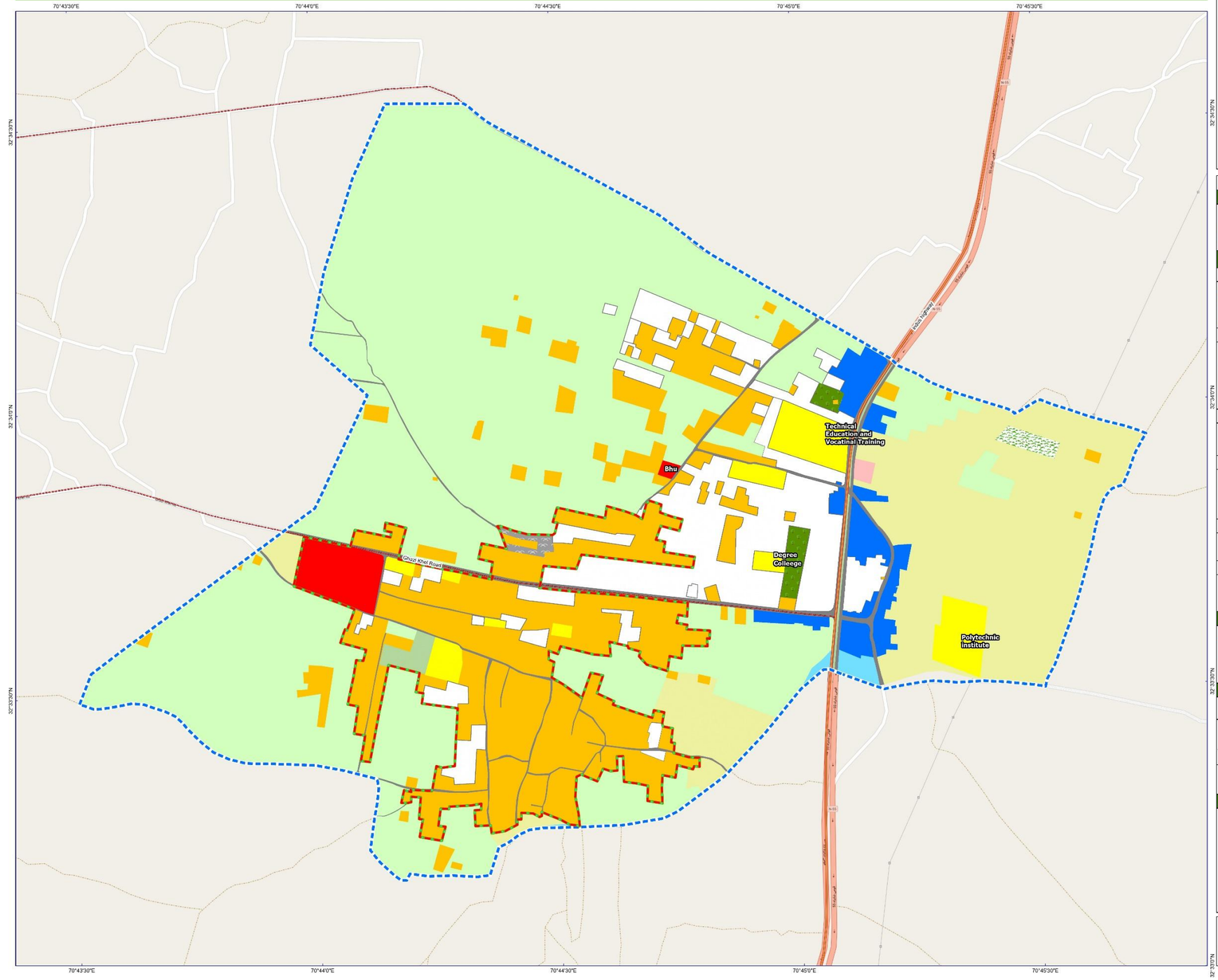
In Ghazni Khel urban center, the major land use is agriculture, covering 49.52% (221.23 ha), primarily outside the compact built-up area. Range land follows with 14.07% (62.88 ha), indicating a large portion of unused or undeveloped land. Residential areas make up 17.11% (76.42 ha), showing a moderate level of urban settlement. Other notable land uses include vacant areas at 9.23%, commercial landuse at 2.11%, and water bodies occupying minimal 0.34%, contributing to the mixed urban-rural nature of the area.

Overall, the landuse statistics reveals a semi-urban environment where agriculture, residential zones, and commercial hubs dominate, with moderate investment in infrastructure and limited urban sprawl. This balance reflects a transitional landscape with significant rural roots and emerging urban characteristics. Detail of land use classification is shown in **Table** and **Map**.

Table 2-10: Ghazni Khel Urban Center Existing Landuse Statistics (hectares)

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Agriculture	0.37	220.86	221.23	49.52%
Commercial		9.43	9.43	2.11%
Education	2.37	9.03	11.40	2.55%
Graveyard	0.82		0.82	0.18%
Health Facility		0.42	0.42	0.10%
Orchards		2.05	2.05	0.46%
Recreation	1.39	0.55	1.95	0.44%
Plantation		1.07	1.07	0.24%
Public Buildings and Civic Amenities	4.87	0.27	5.14	1.15%
Range Land		62.88	62.88	14.07%
Religious Building		0.14	0.14	0.03%
Residential	56.15	20.27	76.42	17.11%
Transportation	2.61	8.46	11.07	2.48%
Vacant Area	7.16	34.06	41.22	9.23%
Water Bodies		1.50	1.50	0.34%
Grand Total	**75.74**	**371.00**	**446.74**	**100%**

GHAZNI KHEL URBAN CENTRE EXISTING LANDUSE MAP



Location Map

Legend

Administrative & Planning Boundaries

- NC/VC Boundaries
- Compact Builtup Area
- Planning Boundary

Landuse Classes

Residential & Commercial

- Commercial
- Residential

Concentrated Public Sector Areas

- Education
- Public Buildings and Civic Amenities
- Health Facility
- Religious Building
- Recreation

Industrial

Physical Landscape

- Agriculture
- Range Land
- Plantation
- Water Bodies

Notified Areas

Other Uses

- Graveyard
- Transportation
- Vacant

Transportation Network

- Highway (N55)
- Secondary Road

Other Features

Scale: 1:6,000

Scale: 0 0.15 0.3 0.6 Kilometers

Ghazni Khel Urban Centre

DISCLAIMER

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Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit,P & DD, Government of KP

Map 2-10: Existing Landuse Classification of Ghazni Khel Urban Center

2.4.5 Tajori

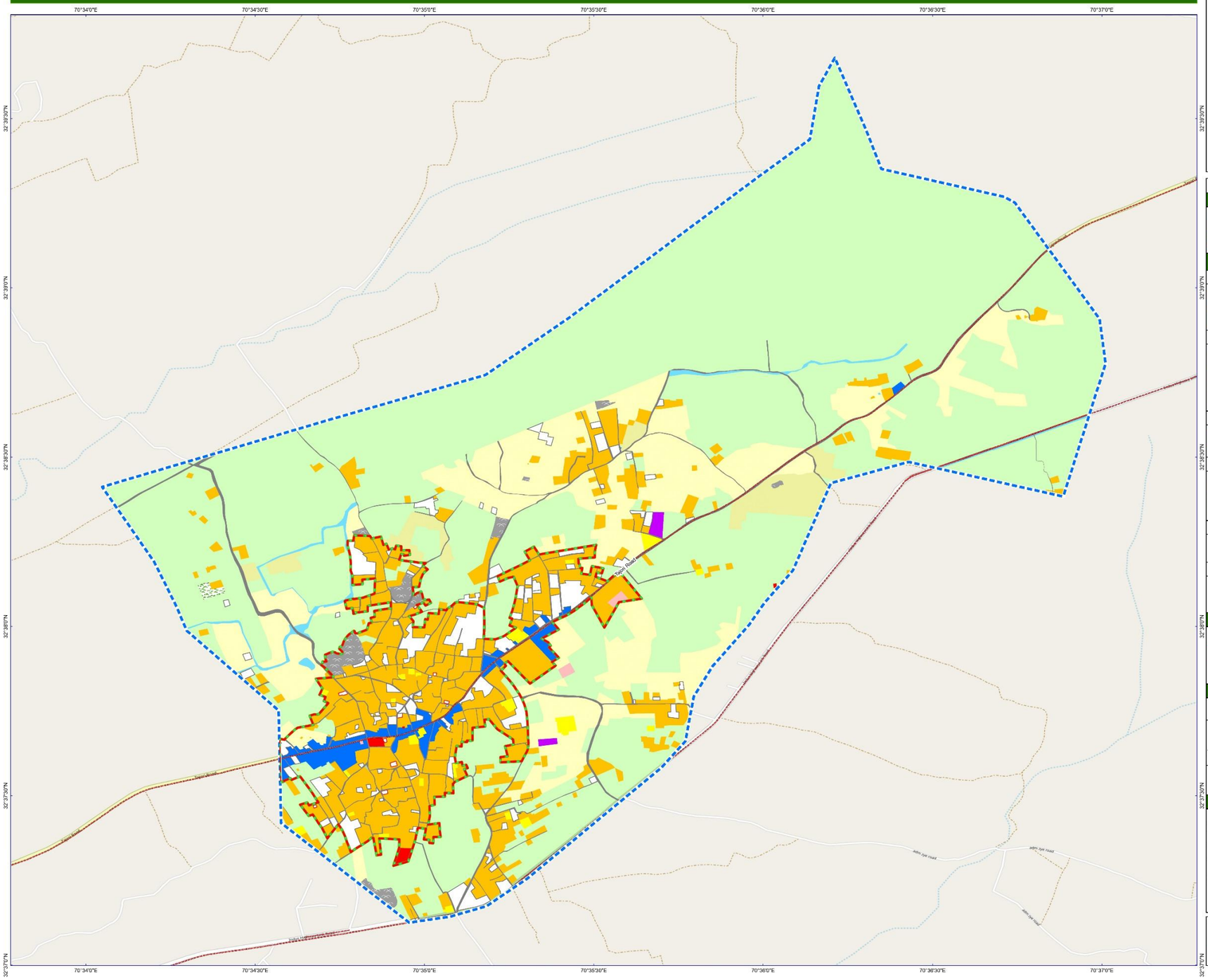
In Tajori urban center, agriculture dominates the land use pattern, covering 63.55% (592.75 ha), largely outside the compact built-up area. Residential land ranks second with 12.77% (119.06 ha), reflecting a significant urban settlement. Other notable uses include barren land 13.15% (122.63 ha) and transportation at 2.62%, while vacant land also shares 2.78%. These figures suggest Tajori retains a predominantly agricultural character with developing residential and transportation infrastructure.

The details of land use classification are shown in **Table** and **Map**.

Table 2-11: Tajori Urban Center Existing Landuse Statistics (hectare)

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Agriculture	3.39	589.36	592.75	63.55%
Barren Land	1.33	121.30	122.63	13.15%
Commercial	9.76	0.21	9.98	1.07%
Education	2.16	2.15	4.31	0.46%
Graveyard	3.83	2.37	6.20	0.67%
Health Facility	0.40	0.36	0.76	0.08%
Recreation	0.03	1.45	1.48	0.16%
Plantation		0.66	0.66	0.07%
Public Buildings and Civic Amenities	0.89	0.03	0.92	0.10%
Rangeland		16.66	16.66	1.79%
Religious Building	0.39		0.39	0.04%
Residential	78.72	40.34	119.06	12.77%
Scattered Industry		1.04	1.04	0.11%
Transportation	8.90	15.56	24.47	2.62%
Vacant Area	18.54	7.42	25.96	2.78%
Water Bodies		5.39	5.39	0.58%
Grand Total	**128.35**	**804.31**	**932.66**	**100%**

TAJORI URBAN CENTRE EXISTING LANDUSE MAP



Location Map

Legend

Administrative & Planning Boundaries

- NC/VC Boundaries
- Compact Builtup Area
- Planning Boundary

Landuse Classes

Residential & Commercial

- Commercial
- Residential

Concentrated Public Sector Areas

- Education
- Public Buildings and Civic Amenities
- Health Facility
- Religious Building
- Recreation

Industrial

- Scattered Industry

Physical Landscape

- Agriculture
- Plantation
- Water Bodies
- Barren Land
- Range Land

Notified Areas

Other Uses

- Graveyard
- Transporta...
- Vacant

Transportation Network

- Primary Road
- Secondary Road

Other Features

Scale: 1:10,000

Scale: 0 0.25 0.5 1 Kilometers

Tajori Urban Centre

DISCLAIMER

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Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit,P & DD, Government of KP

Map 2-11: Existing Landuse Classification of Tajori Urban Center

2.4.6 Pezu

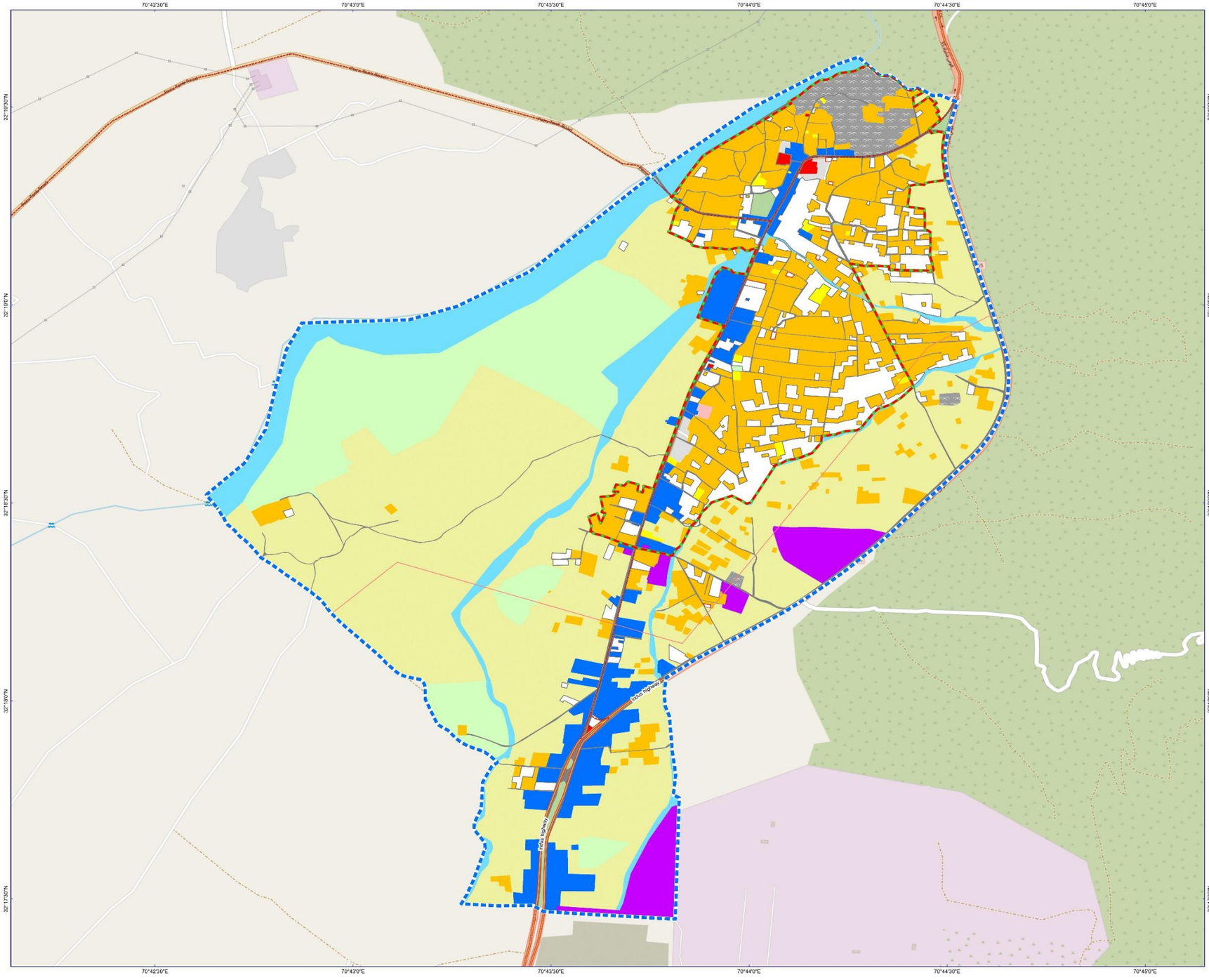
In Pezu urban center, rangeland is the dominant land use, covering 42.06% (273.18 ha), mostly outside the compact built-up area. Residential areas occupy 15.95% (103.6 ha), contributing to the urban development of the region. Other significant land uses include commercial at 4.76% (30.89 ha), scattered industry at 2.7% (17.52 ha) influenced by the presence of Lucky Cement Factory in the near vicinity to the Southeast, and water body of Pezu Nalla at 8.64% (56.11 ha). The area's land use pattern indicates a strong agricultural base with growing residential and industrial development.

The detail land use is shown in **Table** and **Map** below.

Table 2-12: Pezu Urban Center Existing Landuse Statistics (hectares)

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Agriculture	0.10	81.66	81.76	12.59%
Commercial	11.34	19.54	30.89	4.76%
Education	2.11		2.11	0.33%
Graveyard	10.76	0.79	11.55	1.78%
Health Facility	0.34		0.34	0.05%
Parks	0.97	2.96	3.93	0.60%
Plantation		0.01	0.01	0.002%
Public Buildings and Civic Amenities	0.65	0.04	0.69	0.11%
Range Land	3.54	269.63	273.18	42.06%
Religious Building	0.51	0.09	0.60	0.09%
Residential	75.23	28.37	103.60	15.95%
Residential and Commercial (Mixed Use)	1.86		1.86	0.29%
Scattered Industry	0.04	17.48	17.52	2.70%
Transportation	10.20	12.67	22.86	3.52%
Vacant Area	34.90	7.62	42.51	6.55%
Water Bodies	0.47	55.64	56.11	8.64%
Grand Total	**153.01**	**496.50**	**649.51**	**100%**

PEZU URBAN CENTRE EXISTING LANDUSE MAP



Location Map

Legend

Administrative & Planning Boundaries

- NC/VC Boundaries
- Compact Builtup Area
- Planning Boundary

Landuse Classes

Residential & Commercial

- Commercial
- Residential

Concentrated Public Sector Areas

- Education
- Public Buildings and Civic Amenities
- Health Facility
- Religious Building
- Recreation

Industrial

- Scattered Industry

Physical Landscape

- Agriculture
- Plantation
- Water Bodies
- Barren Land
- Range Land

Notified Areas

Other Uses

- Graveyard
- Transportation
- Vacant Area

Transportation Network

- Primary Road
- Secondary Road

Other Features

Scale: 1:9,000

Scale: 0 0.225 0.45 0.9 Kilometers

Pezu Urban Centre

DISCLAIMER

1. This map shows the existing/on-site use of land and does not attribute proposed Land Use to any property/parcel of land.
2. This map does not designate Land Use to any property/parcel of land.
3. The Land Use classes shown in this map cannot be considered as Regularized/converted.
4. The Land Use Classification Map is prepared in light of Section 15, sub section (3) of the Khyber Pakhtunkhwa Land-use and Building Control Act, 2021 and TORs of the Project.

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit,P & DD, Government of KP

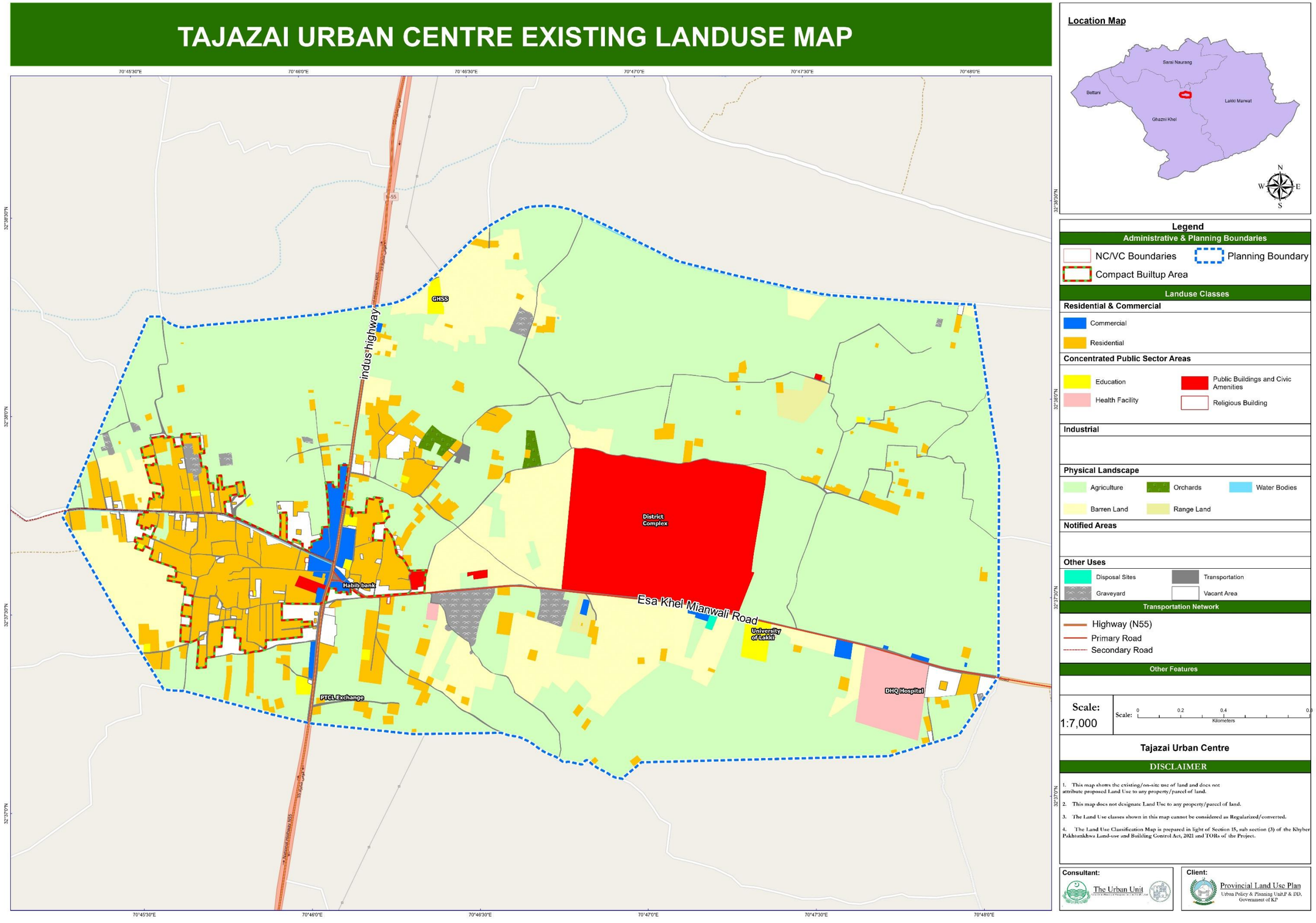
Map 2-12: Existing Landuse Classification of Pezu Urban Center

2.4.7 Tajazai

In Tajazai urban center, agriculture dominates the land use pattern, covering 60.91% (530.86 ha), largely almost all outside the compact built-up area. Barren land follows the second largest landuse with 12.89% (112.36 ha). Thirdly, residential land comes with 9.69% (84.49 ha), reflecting a significant urban settlement. Tajazai being located on main Indus Highway (N-55) serves as the central nod of the district with the new establishment of District Headquarters, University of Lakki Marwat and DHQ Hospital on Essa Khel Mianwali road which passes through the Lakki Marwat MC. Other notable use includes Public Building & Civic Amenities with 9.69% (59.51 ha) land occupation. These figures suggest Tajori retains a predominantly agricultural character with developing residential and transportation infrastructure.

Table 2-13: Tajazai Urban Center Existing Landuse Statistics (hectares)

Landuse	Inside Compact Built Up	Outside Compact Built Up	Total	Percentage
Agriculture	0.95	529.91	530.86	60.91%
Barren Land	0.05	112.32	112.36	12.89%
Commercial	5.57	2.12	7.69	0.88%
Disposal Sites		0.31	0.31	0.04%
Education	0.79	4.36	5.15	0.59%
Graveyard	0.92	8.21	9.12	1.05%
Health Facility		11.20	11.20	1.28%
Orchards		2.18	2.18	0.25%
Public Buildings and Civic Amenities	1.16	58.35	59.51	6.83%
Range Land		4.38	4.38	0.50%
Religious Building	0.09	0.68	0.77	0.09%
Residential	44.45	40.05	84.49	9.69%
Transportation	5.64	16.27	21.92	2.51%
Vacant Area	3.83	14.40	18.23	2.09%
Water Bodies	0.32	3.11	3.43	0.39%
Grand Total	**63.77**	**807.84**	**871.62**	**100%**



Map 2-13: Existing Landuse Classification of Tajazai Urban Center

3. PROPOSED LAND USE ZONING

Land use planning is integral to building and managing cities and towns. It involves looking at how land should be used, ranging from green space to residential areas and industrial sites. It's also the basis of zoning laws and restricts particular land use. Careful planning also helps reduce our environmental footprint by ensuring that resources are managed responsibly. As a result, it helps preserve the environment, conserve resources, promote social gatherings, enhance communities, and support transportation, industry, and economic activity.

The proposed land use plan is formulated to accommodate the projected population growth and associated land use demands over the next two decades. This plan not only addresses the needs of an expanding population but also aims to conserve critical values related to heritage, environment and food chain. The land use strategy is designed to balance urban expansion with the preservation of rural land, ensuring sustainable growth across the district.

3.1 Land Use Planning through Zoning

Zoning is a pivotal regulatory tool in urban and regional planning, used to manage land development in a way that promotes orderly growth and protects public interests. Through the division of land into well-defined zones, each with specific regulations regarding use, intensity, and built form, zoning ensures that spatial development aligns with broader policy objectives such as public health and safety, environmental sustainability, economic efficiency, and social equity.

The proposed zoning framework encompasses a broad spectrum of land use categories to accommodate anticipated spatial needs and promote balanced regional development. These designated zones include: Residential Zone, Educational Zone, Health Zone, Agricultural Zone, Industrial Zone, Recreational Zone, Mixed-Use Zone, and the Central Business District (CBD). This typology provides the institutional structure for integrated and controlled land development, enabling the district to evolve in a sustainable, inclusive, and economically dynamic manner.

While zoning offers the legal and regulatory mechanism for implementation, land use planning delivers the strategic vision—integrating spatial, socio-economic, and environmental considerations into a cohesive framework. Together, they form the backbone of sound urban governance, ensuring that future growth is not only feasible but also desirable in terms of livability, functionality, and resilience.

To support spatial planning decisions, population projections for the plan horizon were derived using demographic trend analysis. Based on these projections, future housing demand was calculated and integrated with the existing housing backlog to estimate the total residential unit requirement. The gross residential land has been obtained from the proposed densities, which were derived from existing densities and then appropriately densified.

3.2 District Lakki Marwat Proposed Land Use

The 2045 Land Use Plan for District Lakki Marwat establishes a strategic framework balancing ecological preservation, agricultural productivity, and measured urban growth. More than 67 % of the proposed zoning is designated as Range and Barren Land to safeguard watershed functions and enhance habitat connectivity. Agricultural lands comprise 31.5% of total proposed zones, ensuring continuity in crop cultivation and reinforcing food security objectives. By dedicating almost one-third of its land to agriculture, the plan reinforces zoning regulations that advocate for sustainable farming practices and long-term rural economic stability. District Lakki Marwat allocates 0.31 % of its zoning as Riverine Forests, aligning with large-scale forest restoration principles to increase biodiversity resilience and mitigate climate change impacts.

In built up landuse, residential zones cover just over 0.57% of the land to deliver targeted housing growth without compromising the district's rural character. 0.04% of total proposed zoning of land has been allocated to Mix Use Zone to foster active living and economic vitality by integrating residential, commercial, and recreational functions in close proximity. Educational, Health, Public Buildings which combinedly form the institutional use covers 0.08% of the total district land. Industrial zones collectively occupy under 0.03 % of the area, demonstrating a compact service-delivery paradigm that maximizes infrastructure efficiency and supports equitable access to public services. This integrated land use framework positions District Lakki Marwat to achieve balanced economic growth, strengthen environmental stewardship, and enhance social well-being through 2045.

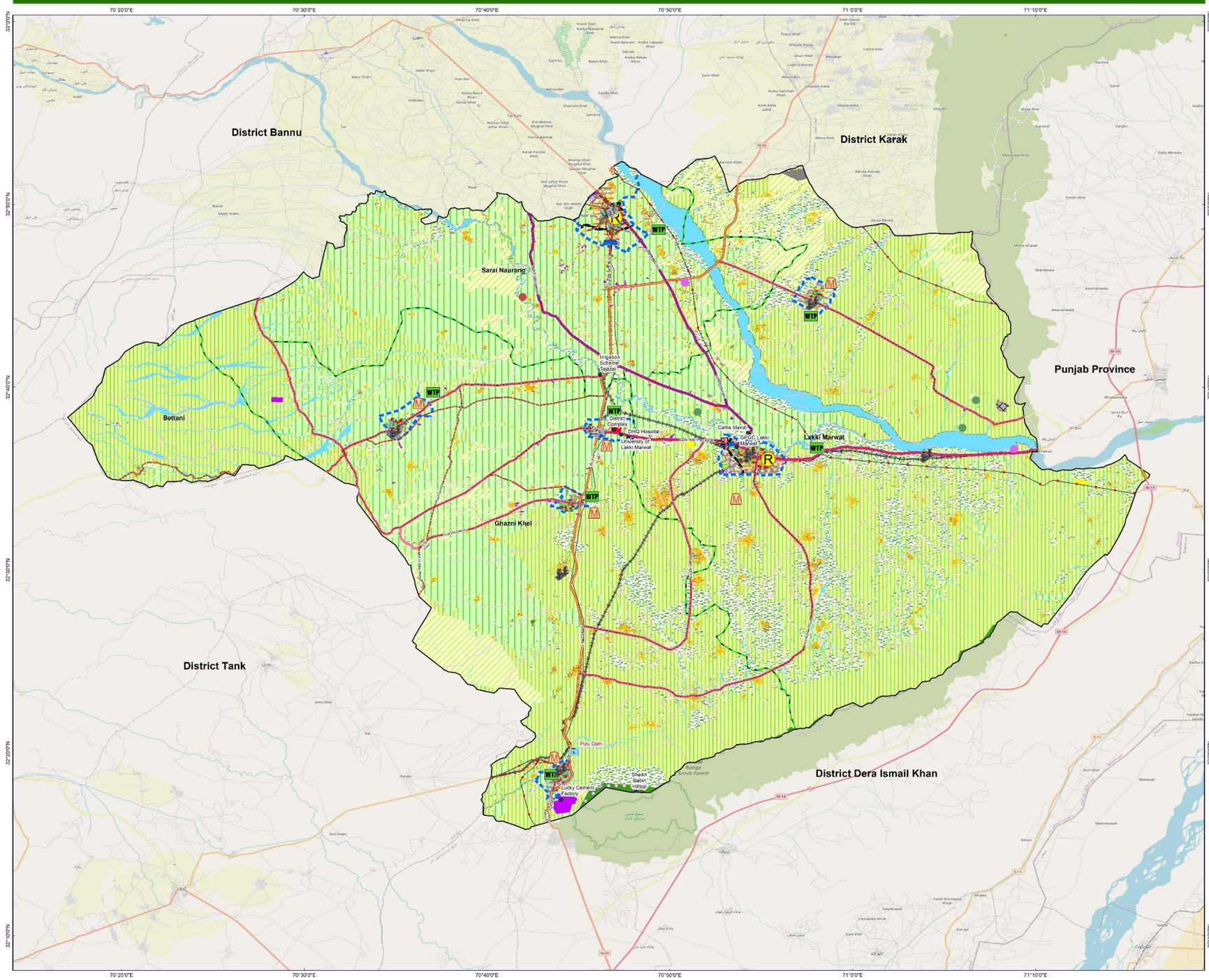
District Lakki Marwat proposed zone calculations are given in the below **Table**:

Table 3-1: Lakki Marwat District Proposed Land Use

Sr. No	Landuse	Area in hectares	%
1	Agriculture Zone	87640.98	31.50%
2	Barren Land	24810.48	8.92%
3	Buffer Zone	23.90	0.01%
4	Bus Terminals	5.01	0.00%
5	CBD	35.81	0.01%
6	Educational Zone	75.50	0.03%
7	Future Reserve	72.84	0.03%
8	Health Zone	73.63	0.03%
9	Industrial Zone	88.65	0.03%
10	Landfill	5.306	0.00%
11	Logistic Facility	1.672	0.00%
12	Mix Use Zone	102.99	0.04%
13	Plantation	16.685	0.01%
14	Public Buildings	54.66	0.02%
15	Range Land	162491.17	58.41%
16	Recreational Zone	87.344	0.03%
17	Residential Zone	1576.92	0.57%
18	Riverine Forest	863.97	0.31%
19	Urban Farm Land	112.59	0.04%
20	WWTP	52.65	0.02%
	Grand Total	**278192.78**	**100%**

Below **Map** visualizes the proposed zoning of District Lakki Marwat followed by **Tabulated** area statement of the existing and proposed statistics of the district.

Proposed Landuse Map Of District Lakki Marwat



Location Map

Legend

Administrative & Planning Boundaries

- District Boundary
- Tehsil Boundaries
- NC/VC Boundaries
- Urban Boundaries
- Proposed Urban Boundaries
- CBA

Landuse Classes

Existing Landuse

- Agriculture
- Barren Land
- Bus Terminals
- Commercial
- Disposal Sites
- Education
- Forest Land
- Graveyard
- Health Facility
- Military Lands/Cantonment
- Orchards
- Plantation
- Public Buildings and Civic Amenities
- Range Land
- Recreation
- Religious Building
- Residential
- Residential and Commercial (Mixed Use)
- Scattered Industry
- Small Industrial Estate
- Transportation
- Vacant Area
- Water Bodies
- Dam
- Approved Housing Scheme

Proposed Landuse

- Landfill Site
- WWTP
- Bus Terminal
- Truck Terminal
- AQ Monitoring Tower

Reforestation Point

- Most Suitable
- Suitable
- Least Suitable
- Agriculture Zone
- Logistic Facility
- Plantation
- Public Buildings
- Bus Terminals
- Landfill Site
- Barren Land
- Buffer Zone
- CBD
- Educational Zone
- Future Reserve
- Health Zone
- Industrial Zone
- Mix Use Zone
- Residential Zone
- Recreational Zone
- Range Land
- Reverine Forest
- Urban Farm Land
- WWTP

Transportation Network

- Motorway (M-14)
- Highway (N-55)
- Primary Road
- Secondary Road
- Railway Line

Other

- Railway Station
- Power Line

Proposed Roads

- Urban Road
- Dualization
- Improvement/Upgradation
- Ring Road

Scale: 1:200,000

Scale: 0 4.75 9.5 19 Kilometers

District Lakki Marwat

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit, P & DD, Government of KP

Map 3-1: Proposed Zoning Map of District Lakki Marwat

Table 3-2: Lakki Marwat District Area Statement of Existing and Proposed Land Uses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of Existing and Proposed	Landuse Percentages	NRM Percentages
Residential	Residential (urban centers)	1425.74	Residential (urban centers)	1576.92	3002.66	**3.6%**	**24 - 50%**
	Mixed Use	5.95	Mixed Use (Residential)	41.20	47.15		
	Residential (rural)	9324.89					
	Total	**10756.58**	**Total**	**1618.12**	**12374.70**		
Commercial	Commercial	249.43	Mix Use (Commercial)	41.20	**326.44**	**0.1%**	**0.5 - 5%**
			CBD	35.81			
	Total	**249.43**	**Total**	**77.01**			
Institutional	Education	373.26	Educational	75.50	**767.73**	**0.2%**	**2-21%**
	Health Facility	43.74	Health	73.63			
	Public Buildings and Civic Amenities	105.49	Public Buildings	54.66			
	Religious Building	41.45					
	Total	**563.94**	**Total**	**203.79**			
Industrial	Scattered Industry	803.97	Industrial Zone	88.65	**892.62**	**0.3%**	**2-20%**
	Total	**803.97**	**Total**	**88.65**			
Recreational/Open Space	Playgrounds/Parks/Open Spaces	154.50	Recreation Zone	87.34	**241.84**	**0.1%**	**0.5-7 %**
	Total	**154.50**	**Total**	**87.34**			
Arterial Circulation/Terminals	Transportation	2150.06	Bus Terminals	5.01	**2158.48**	**0.6%**	**2-29%**
	Bus Terminals	1.74	Logistics Facility	1.67			
	Total	**2151.80**	**Total**	**6.68**			
Other Uses	Agriculture	88163.74	Agriculture	87640.99	**323132.76**	**95.1%**	-
	Barren Land	24434.81	Barren land	24810.48			
	Disposal Site	1.20	Buffer Zone	23.90			
	Graveyard	479.14	Future Reserve	72.84			
	Orchards	238.42	Landfill sites	5.31			
	Military Lands/Cantonment	74.12	Mix Use (Public Amenities)	20.60			
	Range Land	164303.10	Plantation	16.69			
	Vacant Area	1289.13	Range	162491.17			
	Plantation	31694.48	Riverine Forest	863.97			
	Forest Land	726.16	Urban Farmland	112.60			
	Water Bodies	13808.05	WWTP	52.65			
	Total	**325212.36**	**Total**	**276111.18**			
	Grand Total	**339893**	**Grand Total**	**278193**	**339895**	**100%**	

3.3 Urban Areas

The proposed zoning framework encompasses a broad spectrum of land use categories to accommodate anticipated spatial needs and promote balanced regional development. While zoning offers the legal and regulatory mechanism for implementation, land use planning delivers the strategic vision—integrating spatial, socio-economic, and environmental considerations into a cohesive framework. Together, they form the backbone of sound urban governance, ensuring that future growth is not only feasible but also desirable in terms of livability, functionality, and resilience. These designated zones include Residential, Mixed Use, CBD, Mixed use, Educational, Health and Public Buildings/Amenities, Industrial and Recreational. This typology provides the institutional structure for integrated and controlled land development, enabling the district to evolve in a sustainable, inclusive, and economically dynamic manner. The proposed landuse for each proposed urban center is given below:

3.3.1 Lakki City

The proposed land use plan of Lakki City covers a total area of 1,077.77 hectares, distributed across various planning classes to ensure balanced growth and sustainable urban development. The largest share is allocated to the Residential Zone, occupying 636.49 hectares (59.08%) to meet the growing housing demand of the city's population. Agriculture Zone covers 158.84 hectares (14.74%), retaining space for local cultivation and food security, while 52.18 hectares (4.84%) are designated as Mix Use Zone to accommodate integrated commercial and residential functions. The Central Business District (CBD), spread over 11.23 hectares (1.04%), will serve as the commercial hub, whereas the Industrial Zone, with 40.35 hectares (3.75%), provides space for industries and employment opportunities. Future Reserve areas of 70.62 hectares (6.55%) are earmarked for upcoming needs, and 44.46 hectares (4.13%) are preserved as Riverine Forest for ecological balance and flood protection. Recreational areas account for 13.12 hectares (1.22%), ensuring open spaces and community well-being, while social infrastructure is supported through the allocation of 12.60 hectares (1.17%) for education, 9.36 hectares (0.87%) for health facilities, and 12.39 hectares (1.15%) for public buildings. Additionally, 12.41 hectares (1.15%) have been allocated for Buffer Zones to act as transitional and protective spaces between sensitive land uses. The Logistic Facility (Truck Terminal) occupies an area of 1.67 hectares (0.16%), strategically allocated to support goods movement and transportation activities. Its location facilitates efficient loading, unloading, and distribution of freight, reducing congestion in other parts of the urban area.

Similarly, the Bus Terminal covers an area of 1.69 hectares (0.16%), providing essential infrastructure for intercity and intracity passenger transport. The terminal is planned to enhance public mobility, streamline traffic flow, and ensure convenient access for commuters.

Together, these transport facilities play a crucial role in improving connectivity, supporting economic activity, and ensuring the smooth operation of both passenger and freight transportation systems within the urban area.

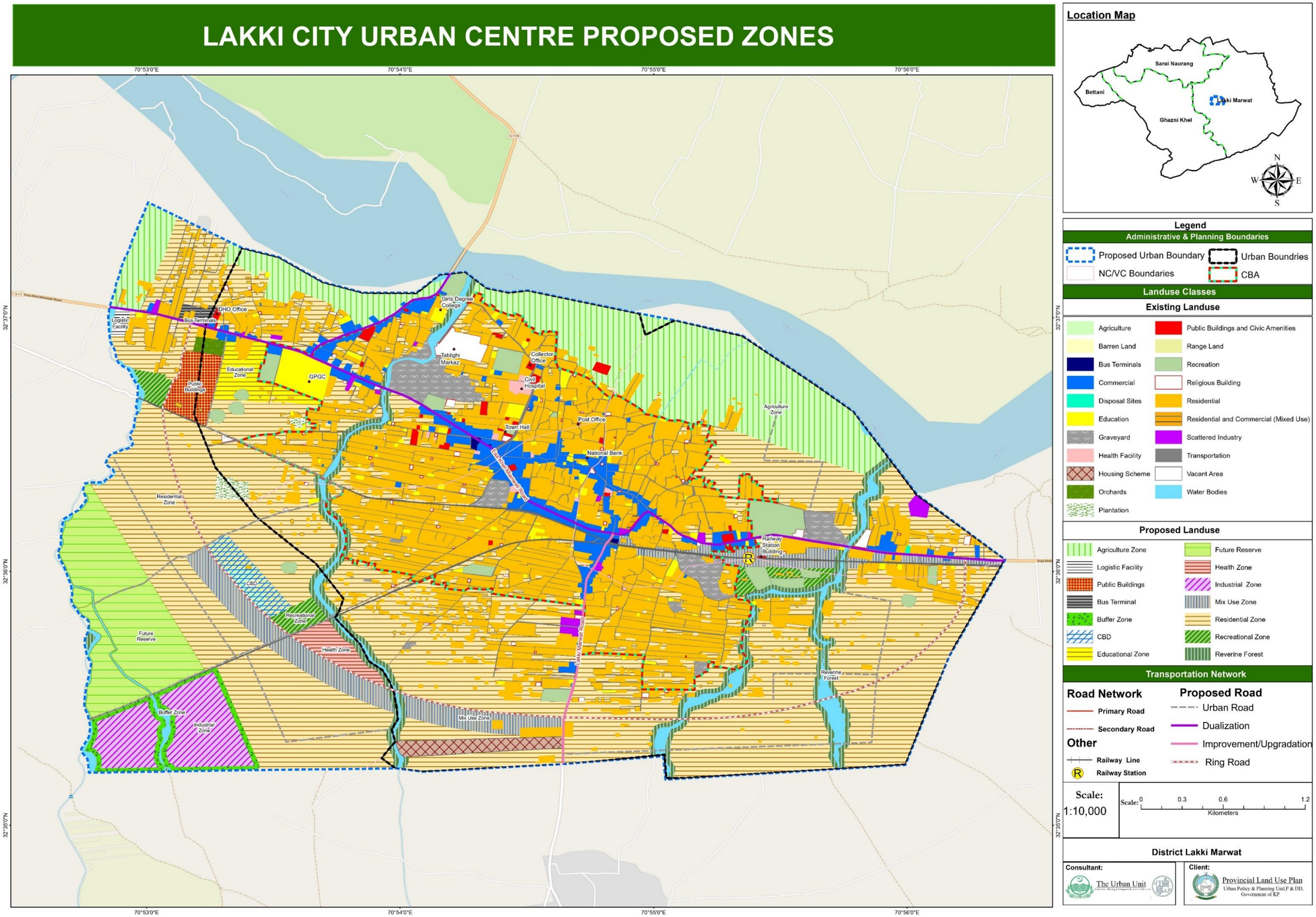
Overall, the proposed land use reflects a comprehensive and sustainable approach by prioritizing residential needs, supporting economic growth, and safeguarding ecological resources for the future development of Lakki City.

Table 3-3: Lakki City Proposed Land Use Statistics

Planning Class	Total Area (Hectares)	%
Agriculture Zone	158.84	14.74
Buffer Zone	12.41	1.15
Bus Terminal	1.69	0.16
CBD	11.23	1.04
Educational Zone	12.60	1.17
Future Reserve	70.62	6.55
Health Zone	9.36	0.87
Industrial Zone	40.35	3.75
Logistic Facility	1.67	0.16
Mix Use Zone	52.18	4.84
Public Buildings	12.39	1.15
Recreational Zone	13.12	1.22
Residential Zone	636.49	59.08
Riverine Forest	44.46	4.13
Grand Total	**1077.77**	**100**

The draft land use plan for Lakki City reflects a significant reorganization of urban space in line with NRM standards. Residential land use is proposed to increase substantially to 1067.9 hectares, addressing growing housing needs. Commercial land use is notably enhanced to 5%, within the 0-5–5% NRM benchmark, indicating a push toward economic activity and service provision. Institutional and industrial areas remain within or close to acceptable limits, while recreational/open spaces increase to 4.9%, supporting livability and environmental balance.

The proposed zoning is shown below in **Map** followed by **Table** showing area statement of existing and proposed statistics of Lakki City.



Map 3-2: Proposed Zones of Lakki City

Table 3-4: Lakki City Area Statement of Existing and Proposed Land Uses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of existing and proposed	Landuse Percentages	NRM Percentages
Residential	Residential	409.25	Residential	636.85	1046.10	**61%**	**24 - 50%**
	Residential and Commercial (Mixed Use)	0.94	Mix Use (Residential)	20.87	21.81		
	Total	**410.19**	**Total**	**657.72**	**1067.91**		
Commercial	Commercial	47.74	Mix Use (Commercial)	20.87	**79.84**	**5%**	**0.5 - 5%**
			CBD	11.23			
	Total	**47.74**	**Total**	**32.10**			
Institutional	Education	22.36	Educational	12.60	**76.93**	**4%**	**2-21%**
	Health Facility	2.42	Health	9.36			
	Public Buildings and Civic Amenities	6.14	Public Buildings	12.39			
	Religious Building	11.65					
	Total	**42.58**	**Total**	**34.35**			
Industrial	Scattered Industry	5.35	Industrial Zone	40.35	**45.70**	**3%**	**2-20%**
	Total	**5.35**	**Total**	**40.35**			
Recreational/ Open Space	Recreation	27.69	Recreational Zone	13.12	**40.81**	**2%**	**0.5-7 %**
	Total	**27.69**	**Total**	**13.12**			
Arterial Circulation/Terminals	Transportation	66.99	Bus Terminal	1.69	**70.88**	**4%**	**2-29%**
	Bus Terminals	0.52	Logistic Facility	1.67			
	Total	**67.51**	**Total**	**3.37**			
Other Uses	Agriculture	168.45	Agriculture	158.84	**369.50**	**21%**	-
	Barren Land	18.87	Buffer Zone	12.41			
	Disposal Site	0.16	Mix Use (Public Amenities)	10.44			
	Graveyard	29.33	Future Reserve	70.62			
	Orchards	2.08	Riverine Forest	44.46			
	Plantation	3.62					
	Range Land	710.76					
	Vacant Area	179.20					
	Water Bodies	37.56					
	Total	**1150.02**	**Total**	**296.76**			
	Grand Total	**1751.1**	**Grand Total**	**1077.8**	**1751.56**	**100%**	

3.3.2 Serai Naurang Urban

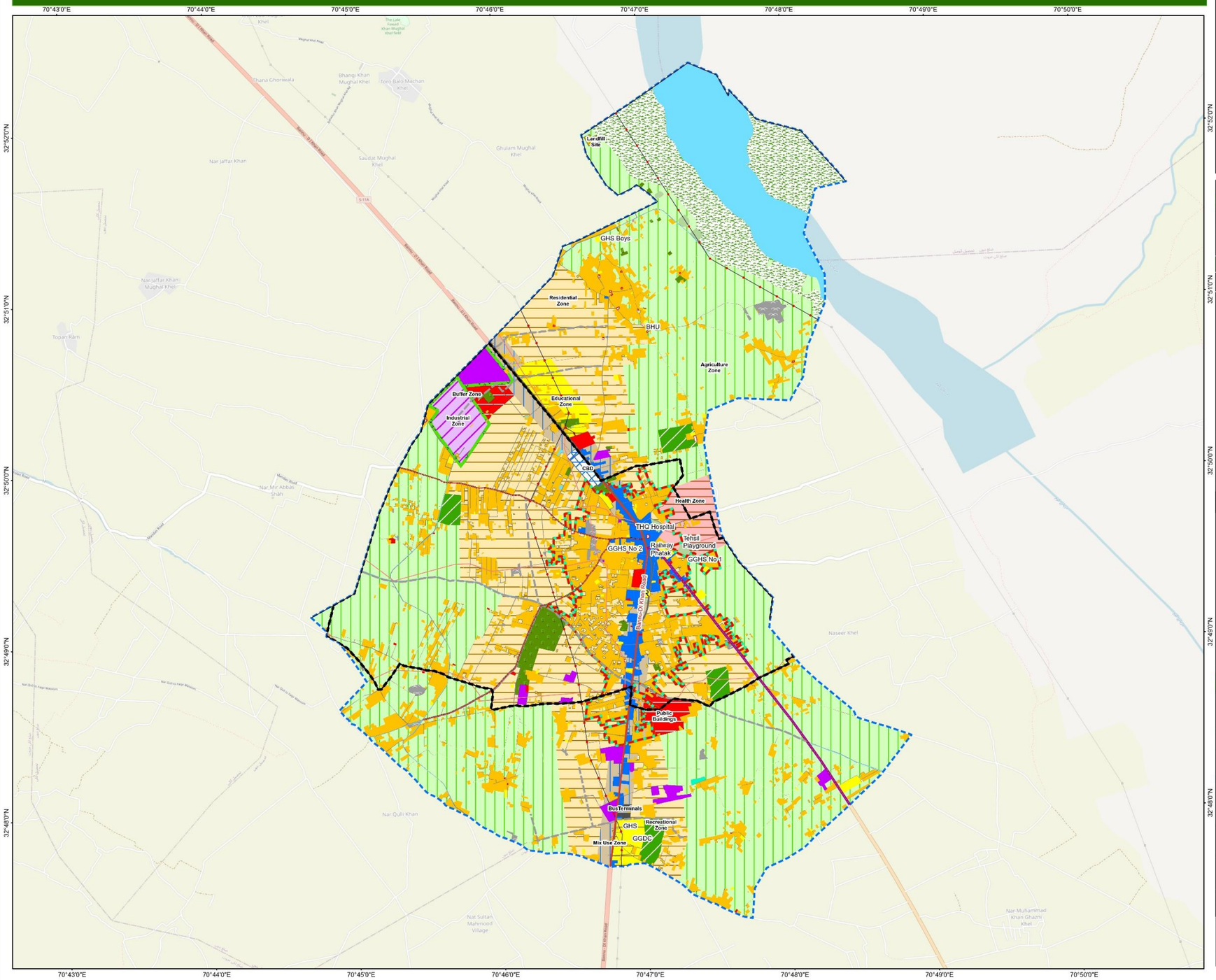
The proposed land use plan covers a total of 1998 hectares, with the majority allocated to the Agriculture Zone, occupying 1,221.31 hectares (61.15%). Since most of the area in Serai Naurang comprises agricultural land, its preservation in the plan is prioritized. The Residential Zone is the second largest category, covering 548.24 hectares (27.42%), aimed at fulfilling the housing demand of the growing urban population. Mix Use Zones extend over 50.82 hectares (2.55%), providing integrated spaces for commercial and residential activities. Industrial activities are planned on 29.02 hectares (1.45%), while the Central Business District (CBD), covering 5.11 hectares (0.26%), is proposed as the city's commercial core. Social infrastructure has also been considered, with 36.55 hectares (1.83%) allocated to educational uses, 36.98 hectares (1.85%) to health facilities, and 25.42 hectares (1.27%) for public buildings. Recreational areas, totaling 32.48 hectares (1.63%), ensure spaces for leisure and community interaction. Additionally, 10.17 hectares (0.51%) are designated as Buffer Zones to provide a safe transition between different land uses. Overall, the land use distribution emphasizes a balanced approach that prioritizes agriculture and housing while also integrating economic, social, and ecological functions for sustainable development.

Table 3-5: Serai Naurang urban proposed Land use

Planning Class	Total Area (Hectares)	%
Agriculture Zone	1221.31	61.15
Buffer Zone	10.18	0.51
Bus Terminal	1.65	0.08
CBD	5.11	0.26
Educational Zone	36.55	1.83
Health Zone	36.98	1.85
Industrial Zone	29.02	1.45
Landfill Site	1.21	0.06
Mix Use Zone	50.82	2.55
Public Buildings	25.42	1.27
Recreational Zone	32.48	1.63
Residential Zone	548.24	27.42
Grand Total	**1998.94**	**100**

The draft land use plan for Sarai Naurang urban shows a major shift toward organized development aligned with NRM standards. Residential land is significantly expanded, now accounting for 34% of the total area, aligning with the recommended range of 24–50%, to meet the growing housing demand. Commercial land use also rises to 2%, falling in the observed landuse percentage of up to 5% highlighting a strong focus on economic activity. Recreational and institutional uses are introduced modestly, supporting livability and social services. The proposed zoning is shown below in **Map** followed by **Table** showing area statement of existing and proposed statistics of Naurang urban center.

SARAI NAURANG URBAN CENTRE PROPOSED ZONES



Location Map

Legend

Administrative & Planning Boundaries

- NC/VC Boundaries
- CBA Boundary
- Urban_Boundries
- Planning Boundary

Landuse Classes

Existing Landuse

- Agriculture
- Barren Land
- Commercial
- Disposal Sites
- Education
- Graveyard
- Health Facility
- Orchards
- Parks
- Plantation
- Public Buildings and Civic Amenities
- Range Land
- Religious Building
- Residential
- Residential and Commercial (Mixed Use)
- Scattered Industry
- Transportation
- Vacant Area
- Water Bodies

Proposed Landuse

- Agriculture Zone
- Landfill Site
- Public Buildings
- BusTerminal
- Buffer Zone
- CBD
- Educational Zone
- Health Zone
- Industrial Zone
- Mix Use Zone
- Residential Zone
- Recreational Zone

Transportation Network

Road Network

- Primary Road
- Secondary Road

Proposed Road

- Urban Road
- Dualization

Other

- Power Line
- Railway Line
- Railway Station

Scale: 1:20,000

Scale: 0 0.5 1 2 Kilometers

District Lakki Marwat

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit,P & DD, Government of KP

Map 3-3: Proposed Zones of Serai Naurang Urban Area

Table 3-6: Serai Naurang Urban Area Statement of Existing and Proposed Land Uses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of Existing & Proposed	Landuse Percentages	NRM Percentages for Reference
Residential	Residential	491.18	Residential	548.24	1039.42	**34%**	**24 - 50%**
	Residential and Commercial (Mixed Use)	0.51	Mixed Use (Residential)	20.33	20.84		
	Total	**491.69**	**Total**	**568.57**	**1060.26**		
Commercial	Commercial	46.46	CBD	5.11	**71.89**	**2%**	**0.5 - 5%**
			Mixed Use (Commercial)	20.33			
	Total	**46.46**	**Total**	**25.43**			
Institutional	Education	18.88	Educational	36.55	**131.44**	**4%**	**2-21%**
	Health Facility	3.99	Health	36.98			
	Public Buildings and Civic Amenities	8.08	Public Buildings	25.42			
	Religious Building	1.53					
	Total	**32.49**	**Total**	**98.95**			
Industrial	Scattered Industry	31.18	Industrial	29.02	**60.19**	**2%**	**2-20%**
	Total	**31.18**	**Total**	**29.02**			
Recreational/ Open Space	Recreation	5.79	Recreational Zone	32.48	**38.26**	**1%**	**0.5-7 %**
	Total	**5.79**	**Total**	**32.48**			
Arterial Circulation/Terminals	Transportation	77.38	Bus Terminal	1.65	**79.02**	**3%**	**2-29%**
	Total	**77.38**	**Total**	**1.65**			
Other Uses	Agriculture	1819.26	Agriculture	1221.31	**1636.76**	**53%**	-
	Barren Land	11.64	Landfill	1.21			
	Disposal Site	0.73	Buffer Zone	10.18			
	Graveyard	15.33	Mixed Use (Public Amenities)	10.16			
	Orchards	28.03					
	Plantation	186.17					
	Range Land	4.75					
	Vacant Area	163.12					
	Water Bodies	163.64					
	Total	**2392.67**	**Total**	**1242.86**			
	Grand Total	**3077.7**	**Grand Total**	**1998.9**	**3077.8**	**100%**	

3.3.3 Tajazai Urban

The proposed land use plan of Tajazai Urban spans a total area of 665.84 hectares. The largest share is allocated to the Agriculture Zone, covering 559.79 hectares (84.07%), which reflects the area's agricultural predominance and the planning emphasis on preserving fertile land. The Residential Zone constitutes 78.18 hectares (11.74%), addressing current and projected housing requirements.

Other significant allocations include the Health Zone (7.04 ha; 1.06%), Recreational Zone (6.44 ha; 0.97%), and Educational Zone (4.31 ha; 0.65%), ensuring adequate provision for social infrastructure. The Industrial Zone (4.01 ha; 0.60%) and CBD (3.66 ha; 0.55%) are designated to support local economic and commercial activities. Minor land uses comprise Bus Terminal (1.67 ha; 0.25%), Buffer Zones (0.60 ha; 0.09%) are proposed adjacent to the Industrial Zone to act as a protective barrier, minimizing environmental impacts and controlling the spread of pollutants. and public buildings (0.15 ha; 0.02%).

Overall, the proposed land use distribution maintains a balanced approach, emphasizing agricultural preservation while ensuring adequate land allocation for residential, institutional, commercial, and industrial development to support sustainable urban growth.

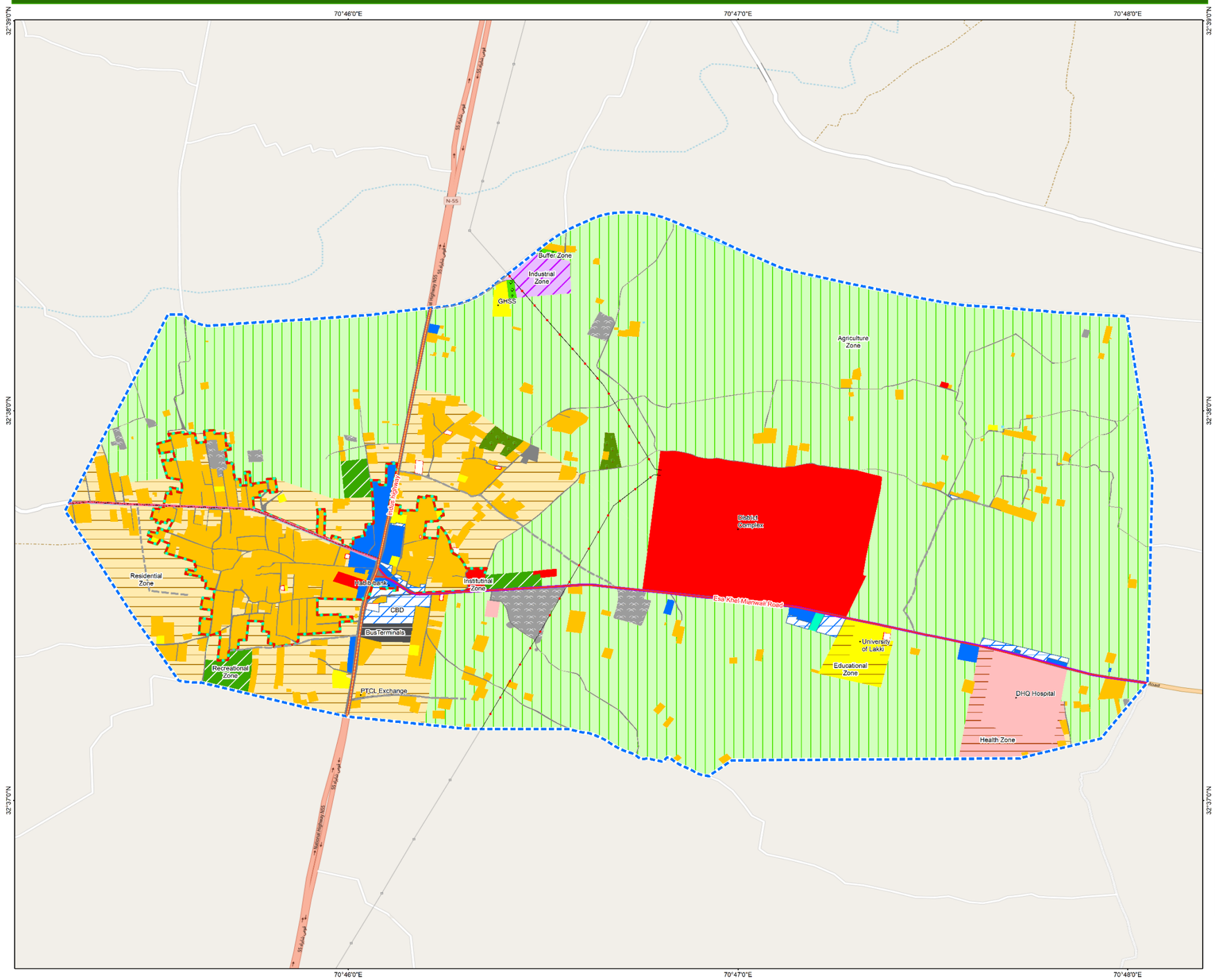
Table 3-7: Tajazai proposed Land use

Planning Class	Total Area (Hectares)	%
Agriculture Zone	559.79	84.07
Buffer Zone	0.60	0.09
Bus Terminal	1.67	0.25
CBD	3.66	0.55
Educational Zone	4.31	0.65
Health Zone	7.04	1.06
Industrial Zone	4.01	0.60
Public Buildings	0.15	0.02
Recreational Zone	6.44	0.97
Residential Zone	78.18	11.74
Grand Total	**665.84**	**100.00**

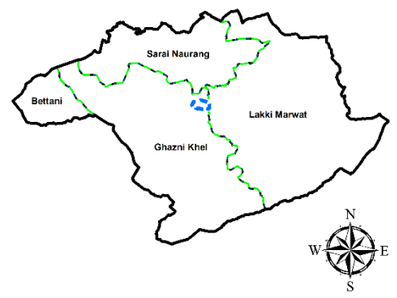
The draft land use plan for Ghoriwala urban area reflects a strategic reorganization to align with NRM standards and support balanced urban growth. Residential land use 19%, addressing housing demand falling short of the observed range of 24–50%. Industrial and commercial zones expand moderately to 2% and 0.4% respectively, promoting local employment and economic activity. Institutional land use rises to 10%, due to the presence of district headquarters occupying almost 60 hectares enhancing access public services, while recreational spaces are strengthened to 1%, improving urban livability.

The proposed zoning is shown below in **Map** followed by **Table** showing area statement of existing and proposed statistics of Tajazai urban center.

TAJAZAI URBAN CENTRE PROPOSED ZONES



Location Map



Legend

Administrative & Planning Boundaries

- Proposed Urban Boundary
- CBA Boundary
- NC/VC Boundaries

Landuse Classes

Existing Landuse

- Commercial
- Public Buildings and Civic Amenities
- Disposal Sites
- Religious Building
- Education
- Residential
- Graveyard
- Transportation
- Health Facility
- Water Bodies
- Orchards

Proposed Landuse

- Agriculture Zone
- Health Neighbourhood
- BusTerminals
- Institutinal Zone
- Buffer Zone
- Industrial Zone
- CBD
- Residential Zone
- Educational Neighbourhood
- Recreational Zone

Transportation Network

Road Network

- Highway (N-55)
- Primary Road
- Secondary Road

Proposed Road

- Urban Road
- Dualization
- Improvement/Upgradation

Other

- Power Line

Scale: 1:9,000

Scale: 0 0.225 0.45 0.9 Kilometers

District Lakki Marwat

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit, P & DD, Government of KP

Map 3-4: Proposed Zones of Tajazai Urban Area

Table 3-8: Tajazai Urban area Statement of Existing and Proposed Land Uses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of Existing & Proposed	Landuse Percentages	NRM Percentages for Reference
Residential	Residential	84.49	Residential	78.18	162.67	**19%**	**24 - 50%**
	Total	**84.49**	**Total**	**78.18**	**162.67**		
Commercial	Commercial	7.69	CBD	5.89	**13.58**	**2%**	**0.5 - 5%**
	Total	**7.69**	**Total**	**5.89**			
Institutional	Education	5.15	Educational	4.31	**88.13**	**10%**	**2-21%**
	Health Facility	11.20	Health	7.04			
	Public Buildings and Civic Amenities	59.51	Public Buildings	0.15			
	Religious Building	0.77					
	Total	**76.63**	**Total**	**11.50**			
Industrial	Scattered Industry	-	Industrial	4.01	**4.01**	**0.4%**	**2-20%**
			Total	**4.01**			
Recreational/ Open Space	Recreation	-	Recreation	6.44	**6.44**	**1%**	**0.5-7 %**
			Total	**6.44**			
Arterial Circulation/Terminals	Transportation	21.92	Bus Terminals	1.67	**23.58**	**3%**	**2-29%**
	Total	**21.92**	**Total**	**1.67**			
Other Uses	Agriculture	530.86	Agriculture	557.56	**572.29**	**66%**	-
	Barren Land	112.36					
	Graveyard	9.12					
	Orchards	2.18					
	Range Land	4.38					
	Vacant Area	18.23					
	Water Bodies	3.43					
	Total	**680.57**	**Total**	**557.56**			
	Grand Total	**871.6**	**Grand Total**	**665.2**	**870.71**	**100%**	

3.3.4 Tajori Urban

The proposed land use plan 2045 for Tajori Urban Area covers a total of 757.83 hectares. The Agriculture Zone dominates, occupying 636.49 hectares (83.99%), which reflects the area's strong agricultural base and the planning intent to conserve fertile land. The Residential Zone covers 91.89 hectares (12.13%), allocated to accommodate existing and future housing demands.

Other major land uses include the Recreational Zone (9.39 ha; 1.24%), Public buildings (4.65 ha; 0.61%), Health Zone (4.13 ha; 0.54%), Industrial Zone (4.04 ha; 0.53%), and Educational Zone (3.96 ha; 0.52%), ensuring provision for essential social, economic, and community facilities. The Central Business District (CBD) spans 3.28 hectares (0.43%), designated for commercial and business activities.

Overall, the proposed land use distribution promotes balanced and sustainable development, prioritizing agricultural preservation while allocating sufficient land for residential, institutional, industrial, and recreational uses to meet future urban growth needs.

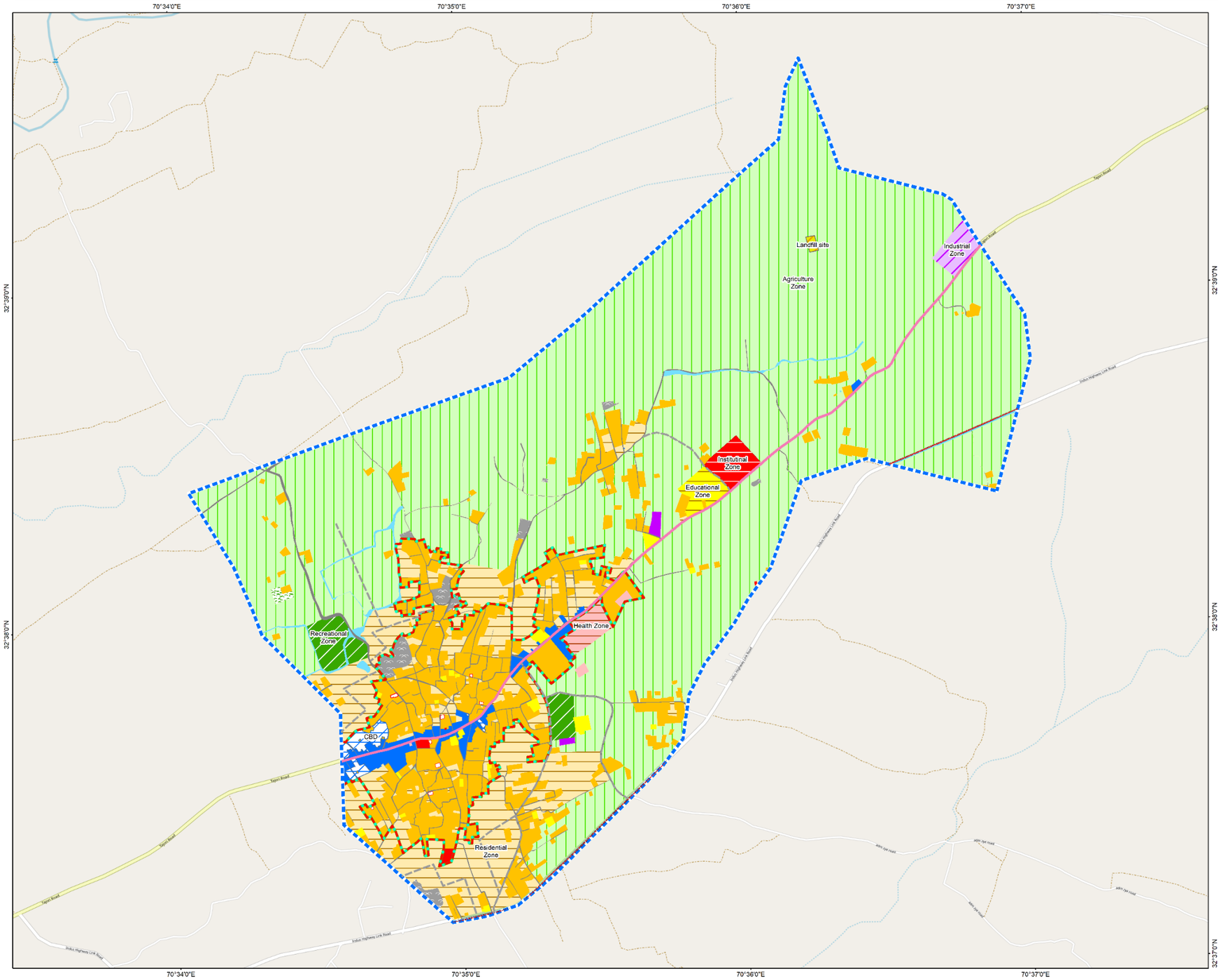
Table 3-9: Tajori Urban proposed land use

Planning Class	Total Area (Hectares)	%
Agriculture Zone	636.49	83.99
CBD	3.28	0.43
Educational Zone	3.96	0.52
Health Zone	4.13	0.54
Industrial Zone	4.04	0.53
Public Buildings	4.65	0.61
Recreational Zone	9.39	1.24
Residential Zone	91.89	12.13
Grand Total	**757.83**	**100.00**

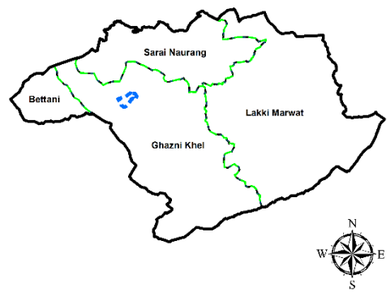
The draft land use plan for Tajori urban center demonstrates a focused effort to restructure development in line with NRM standards. Residential land use increases to 23%, falling a little short than the observed range of 24–50%, highlighting the need for future density management strategies. Commercial land use increases to 1%, well within the 0.5–5% standard, reflecting a push to stimulate local economic growth. Institutional use is set at 2%, closely aligning with standards, while recreational spaces are introduced at 1%, well within 0.5-7% target.

The proposed zoning is shown below in **Map** followed by **Table** showing area statement of existing and proposed statistics of Tajori urban center.

TAJORI URBAN CENTRE PROPOSED ZONES



Location Map



Legend

Administrative & Planning Boundaries

- Proposed Urban Boundary
- CBA Boundary
- NC/VC Boundaries

Landuse Classes

Existing Landuse

- Commercial
- Public Buildings and Civic Amenities
- Education
- Religious Building
- Graveyard
- Residential
- Health Facility
- Scattered Industry
- Parks
- Transportation
- Plantation
- Water Bodies

Proposed Landuse

- Agriculture Zone
- Landfill site
- CBD
- Educational Neighbourhood
- Health Neighbourhood
- Institutinal Zone
- Industrial Zone
- Residential Zone
- Recreational Zone

Transportation Network

- Secondary Road

Proposed Roads

- Urban Road
- Improvement/Upgradation

Scale: 1:10,000

Scale: 0 0.25 0.5 1 Kilometers

District Lakki Marwat

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit, P & DD, Government of KP

Map 3-5: Proposed Zones of Tajori Urban Area

Table 3-10: Tajori Urban Area Statement of Existing and Proposed Land Uses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of Existing & Proposed	Landuse Percentages	NRM Percentages for Reference
Residential	Residential	119.03	Residential	91.89	210.92	**23%**	**24 - 50%**
	Total	**119.03**	**Total**	**91.89**	**210.92**		
Commercial	Commercial	9.98	CBD	3.28	**13.26**	**1%**	**0.5 - 5%**
	Total	**9.98**	**Total**	**3.28**			
Institutional	Education	4.31	Educational	3.96	**19.17**	**2%**	**2-21%**
	Health Facility	0.80	Health	4.13			
	Public Buildings and Civic Amenities	0.92	Public Buildings	4.65			
	Religious Building	0.39					
	Total	**6.42**	**Total**	**12.74**			
Industrial	Scattered Industry	1.04	Industrial	4.04	**5.09**	**1%**	**2-20%**
	Total	**1.04**	**Total**	**4.04**			
Recreational/ Open Space	Recreation	1.48	Recreation	9.39	**10.87**	**1%**	**0.5-7 %**
	Total	**1.48**	**Total**	**9.39**			
Arterial Circulation/Terminals	Transportation	24.60	-	-	**24.60**	**3%**	**2-29%**
	Total	**24.60**					
Other Uses	Agriculture	592.64	Agriculture	636.49	**648.74**	**70%**	**-**
	Barren Land	122.63					
	Graveyard	6.20					
	Plantation	0.66					
	Range Land	16.66					
	Vacant Area	25.93					
	Water Bodies	5.39					
	Total	**770.11**	**Total**	**636.49**			
	Grand Total	**932.66**	**Grand Total**	**592.6**	**932.64**	**100%**	

3.3.5 Ghazni Khel Urban

The proposed land use plan for Ghazni Khel Urban covers a total area of 325.30 hectares, carefully distributed among various planning classes to ensure balanced and sustainable urban development.

The Agriculture Zone occupies the largest share, covering 239.87 hectares (73.74%), reflecting the area's predominantly agricultural character and the need to preserve fertile land for cultivation. The Residential Zone accounts for 52.45 hectares (16.12%), providing adequate space for housing to accommodate the projected population growth.

The Central Business District (CBD) covers 1.85 hectares (0.57%), designated for commercial and business activities to support the local economy. Essential social infrastructure has also been planned, including the Educational Zone (5.42 hectares, 1.66%), Health Zone (5.66 hectares, 1.74%), and Institutional Zone (4.01 hectares, 1.23%), ensuring accessibility to education, healthcare, and administrative facilities.

In addition, 11.72 hectares (3.60%) have been allocated for Recreational Zones to promote community well-being and environmental balance. The Industrial Zone covers 2.13 hectares (0.66%), intended for small-scale industries to generate employment opportunities within the urban area. Furthermore, 2.20 hectares (0.68%) have been reserved as Future Reserve, providing flexibility for future expansion and development needs.

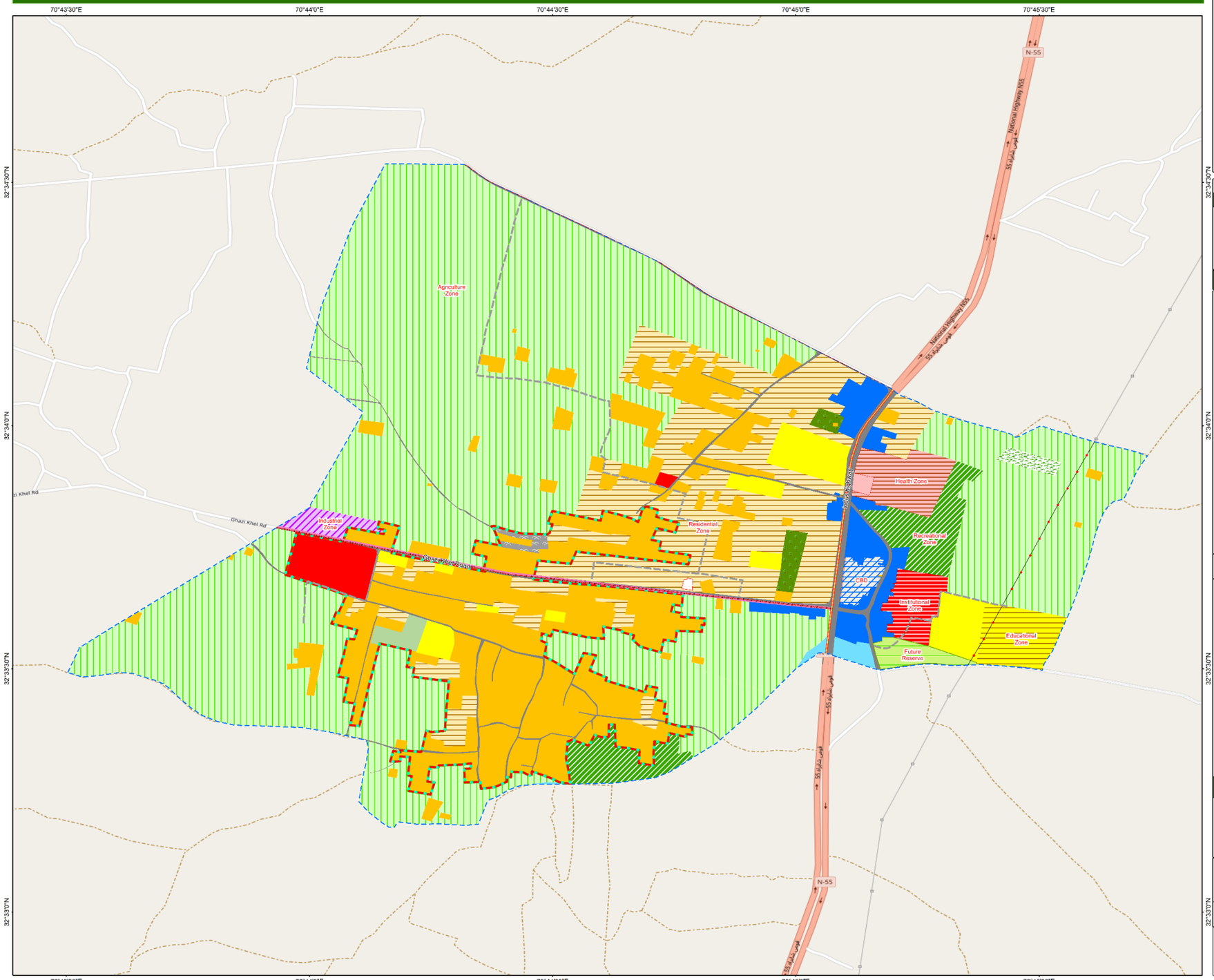
Table 3-11: Ghazni Khel urban proposed Land use

Planning Class	Total Area (Hectares)	%
Agriculture Zone	239.87	73.74
CBD	1.85	0.57
Educational Zone	5.42	1.66
Future Reserve	2.2	0.68
Health Zone	5.66	1.74
Industrial Zone	2.13	0.66
Institutional Zone	4.01	1.23
Recreational Zone	11.72	3.60
Residential Zone	52.45	16.12
Grand Total	**325.30**	**100.00**

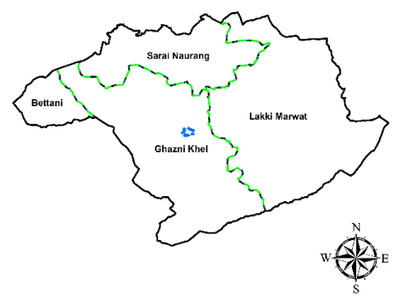
The draft land use plan for Ghazni Khel urban center shows a major restructuring to meet NRM standards and support organized growth. Residential land use rises to 29%, which is in between observed 24–50% range, indicating a strong focus on housing provision but necessitating future control over urban density. Industrial and institutional allocations, at 0.5% and maximum 7% respectively, fall within NRM standards, supporting employment and public service needs. The maximum observed range of Institutional landuse has been recommended as Ghazni Khel is the Tehsil headquarters. Commercial land use increases to 3%, aligning the ideal range, reflecting a strategy to boost local economic activities. Recreational spaces, at 3%, align well with livability goals.

The proposed zoning is shown below in **Map** followed by **Table** showing area statement of existing and proposed statistics of Ghazni Khel urban center.

GHAZNI KHEL URBAN CENTRE PROPOSED ZONES



Location Map



Legend

Administrative & Planning Boundaries

- Proposed Urban Boundary
- NC/VC Boundaries
- CBA

Other

- High Tension Line

Existing Landuse

- Commercial
- Education
- Graveyard
- Health Facility
- Orchards
- Public Buildings and Civic Amenities
- Parks
- Plantation
- Religious Building
- Residential
- Transportation
- Water Bodies

Proposed Landuse

- Agriculture Zone
- Industrial Zone
- Institutional Zone
- CBD
- Educational Neighbourhood
- Future Reserve
- Health Neighbourhood
- Residential Zone
- Recreational Zone

Transportation Network

- Highway (N-55)
- Secondary Road

Proposed Roads

- Urban Road
- Improvement/Upgradation

Scale: 1:7,000

Scale: 0 0.15 0.3 0.6 Kilometers

District Lakki Marwat

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit, P & DD, Government of KP

Map 3-6: Proposed Zones of Ghazni Khel Urban Center

Table 3-12: Ghazni Khel Urban Area Statement of Existing and Proposed Land Uses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of Existing & Proposed	Landuse Percentages	NRM Percentages for Reference
Residential	Residential	76.51	Residential	52.45	**128.96**	**29%**	**24 - 50%**
	Total	**76.51**	**Total**	**52.45**			
Commercial	Commercial	9.43	CBD	1.85	**11.28**	**3%**	**0.5 - 5%**
	Total	**9.43**	**Total**	**1.85**			
Institutional	Education	11.40	Educational	5.42	**32.18**	**7%**	**2-21%**
	Health Facility	0.42	Health	5.66			
	Public Buildings and Civic Amenities	5.14	Public Buildings	4.01			
	Religious Building	0.14					
	Total	**17.10**	**Total**	**15.08**			
Industrial	-	-	Industrial Zone	2.13	**2.13**	**0.5%**	**2-20%**
			Total	**2.13**			
Recreational/ Open Space	Recreation	1.39	Recreational Zone	11.72	**13.12**	**3%**	**0.5-7 %**
	Total	**1.39**	**Total**	**11.72**			
Arterial Circulation/Terminals	Transportation	11.62			**11.62**	**3%**	**2-29%**
	Total	**11.62**					
Other Uses	Agriculture	221.14	Agriculture	239.87	**247.51**	**55%**	-
	Orchards	2.05	Future Reserve	2.20			
	Graveyard	0.82					
	Plantation	1.07					
	Range Land	62.88					
	Vacant Area	41.22					
	Water Bodies	1.50					
	Total	**330.68**	**Total**	**242.07**			
	Grand Total	**446.74**	**Grand Total**	**325**	**446.8**	**100%**	

3.3.6 Landiwa Urban

The proposed land use plan for 2045 Landiwah Urban spans a total area of 345.20 hectares, designed to promote organized urban growth while preserving the area's agricultural and environmental assets.

The Agriculture Zone occupies the largest share, covering 183.99 hectares (53.30%), reflecting the area's agrarian base and the importance of maintaining agricultural productivity. The Residential Zone is the second largest, comprising 115.88 hectares (33.57%), which provides adequate space to meet current and future housing needs of the growing population.

The Central Business District (CBD) covers 4.76 hectares (1.38%), planned as the commercial core to accommodate markets, shops, and business activities, thereby supporting local economic development. Social infrastructure has been prioritized through the allocation of 3.37 hectares (0.97%) for Educational Zones, 3.08 hectares (0.89%) for Health Facilities, and 3.11 hectares (0.90%) for Public Buildings, ensuring accessibility to essential services for residents.

To support economic activity, 5.76 hectares (1.67%) have been proposed for the Industrial Zone, encouraging small scale industries that can provide local employment opportunities. Additionally, 16.69 hectares (4.83%) are allocated for Plantation, contributing to environmental sustainability and green cover, while 8.56 hectares (2.48%) are proposed for Recreational Zones to promote social interaction and community well-being.

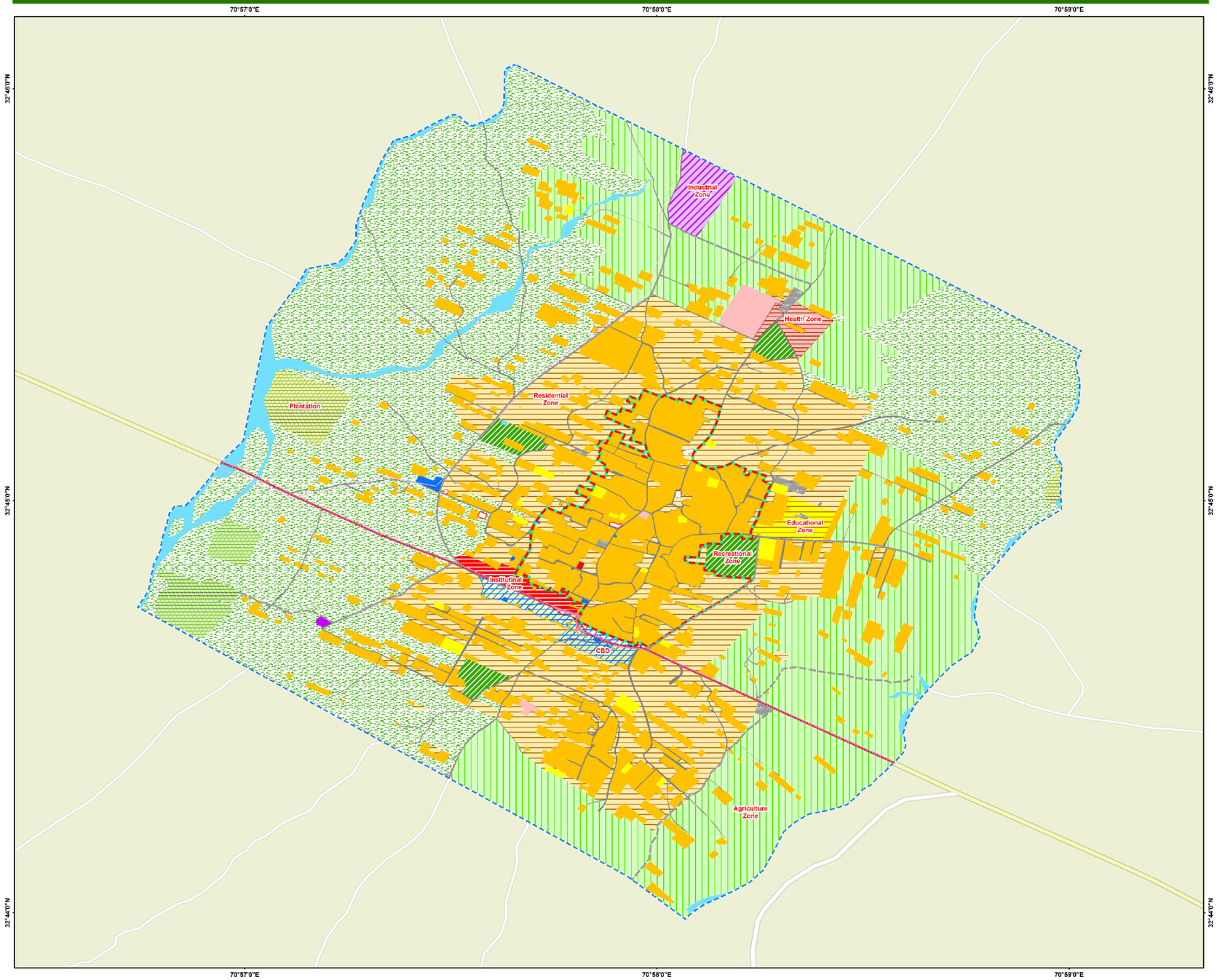
Table 3-13: Landiwa Urban Proposed Land use

Planning Class	Total Area (Hectares)	%
Agriculture Zone	183.99	53.30
CBD	4.76	1.38
Educational Zone	3.37	0.97
Health Zone	3.08	0.89
Industrial Zone	5.76	1.67
Public Buildings	3.11	0.90
Plantation	16.69	4.83
Recreational Zone	8.56	2.48
Residential Zone	115.88	33.57
Grand Total	**345.20**	**100.00**

The draft land use plan for Landiwa urban center shows a major restructuring to meet NRM standards and support organized growth. Residential land use rises to 32%, which is in between observed 24–50% range, indicating a strong focus on housing provision but necessitating future control over urban density. Industrial and institutional allocations, at 1% and 2% respectively, fall within NRM standards, supporting employment and public service needs. Commercial land use increases to 1% within observed range reflecting a strategy to boost local economic activities. Recreational spaces, at 1%, align well with livability goals.

The proposed zoning is shown below in **Map** followed by **Table** showing area statement of existing and proposed statistics of Landiwa urban center.

LANDIWA URBAN CENTRE PROPOSED ZONES



Location Map

Legend

Administrative & Planning Boundaries

- Proposed Urban Boundary
- CBA
- NC/VC Boundaries

Landuse Classes

Existing Landuse

- Agriculture
- Barren Land
- Commercial
- Education
- Graveyard
- Health Facility
- Plantation
- Public Buildings and Civic Amenities
- Range Land
- Religious Building
- Residential
- Scattered Industry
- Transportation
- Vacant Area
- Water Bodies

Proposed Landuse

- Agriculture Zone
- Plantation
- CBD
- Educational Zone
- Health Zone
- Institutinal Zone
- Industrial Zone
- Residential Zone
- Recreational Zone

Transportation Network

- Secondary Road

Proposed Roads

- Urban Road
- Improvement/Upgradation

Scale: 1:8,000

Scale: 0 0.2 0.4 0.8 Kilometers

District Lakki Marwat

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit,P & D.D, Government of KP

Map 3-7: Proposed Zones of Landiwa Urban Center

Table 3-14: Landiwa Urban Center Statement of Existing and Proposed Land Uses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of Existing & Proposed	Landuse Percentages	NRM Percentages for Reference
Residential	Residential	141.73	Residential	115.88	**257.61**	**32%**	**24 - 50%**
	Total	**141.73**	**Total**	**115.88**			
Commercial	Commercial	0.61	CBD	4.76	**5.38**	**1%**	**0.5 - 5%**
	Total	**0.61**	**Total**	**4.76**			
Institutional	Education	4.06	Educational	3.37	**17.43**	**2%**	**2-21%**
	Health Facility	3.48	Health	3.08			
	Religious Building	0.33	Public Buildings	3.11			
	Total	**7.88**	**Total**	**9.55**			
Industrial	Scattered Industry	0.18	Industrial Zone	5.76	**5.94**	**1%**	**2-20%**
	Total	**0.18**	**Total**	**5.76**			
Recreational/ Open Space	-	-	Recreation	8.56	**8.56**	**1%**	**0.5-7 %**
			Total	**8.56**			
Arterial Circulation/Terminals	Transportation	19.61	-	-	**19.61**	**2%**	**2-29%**
	Total	**19.61**					
Other Uses	Agriculture	99.56	Agriculture	183.99	**497.20**	**61%**	-
	Barren Land	63.19					
	Graveyard	1.46	Plantation	16.69			
	Plantation	278.81					
	Range Land	166.80					
	Vacant Area	15.65					
	Water Bodies	16.25					
	Total	**641.73**	**Total**	**200.68**			
	Grand Total	**812**	**Grand Total**	**345**	**812**	**100%**	

3.3.7 Pezu Urban

The proposed land use plan for Pezu Urban covers 400.08 hectares, ensuring a balanced and sustainable urban structure. The Agriculture Zone dominates with 165.98 hectares (41.49%), while Urban Farm Land occupies 112.59 hectares (28.14%), it aims to support local food supply, enhance food security, and provide livelihood opportunities for the local population.

The Residential Zone covers 53.52 hectares (13.38%), providing adequate space for housing needs. The CBD (3.69 ha, 0.92%) serves as the commercial hub, while Educational (9.29 ha, 2.32%), Health (7.40 ha, 1.85%), and Public Buildings (4.93 ha, 1.23%) ensure access to essential services.

The Industrial Zone (3.34 ha, 0.84%) supports local employment, and Recreational Zones (5.54 ha, 1.38%) enhance community well-being. The Riverine Forest (33.08 ha, 8.27%) contributes to environmental protection, and a small Buffer Zone (0.71 ha, 0.18%) maintains land-use separation.

Overall, the plan promotes sustainable growth by integrating agriculture, residential development, industry, and environmental conservation.

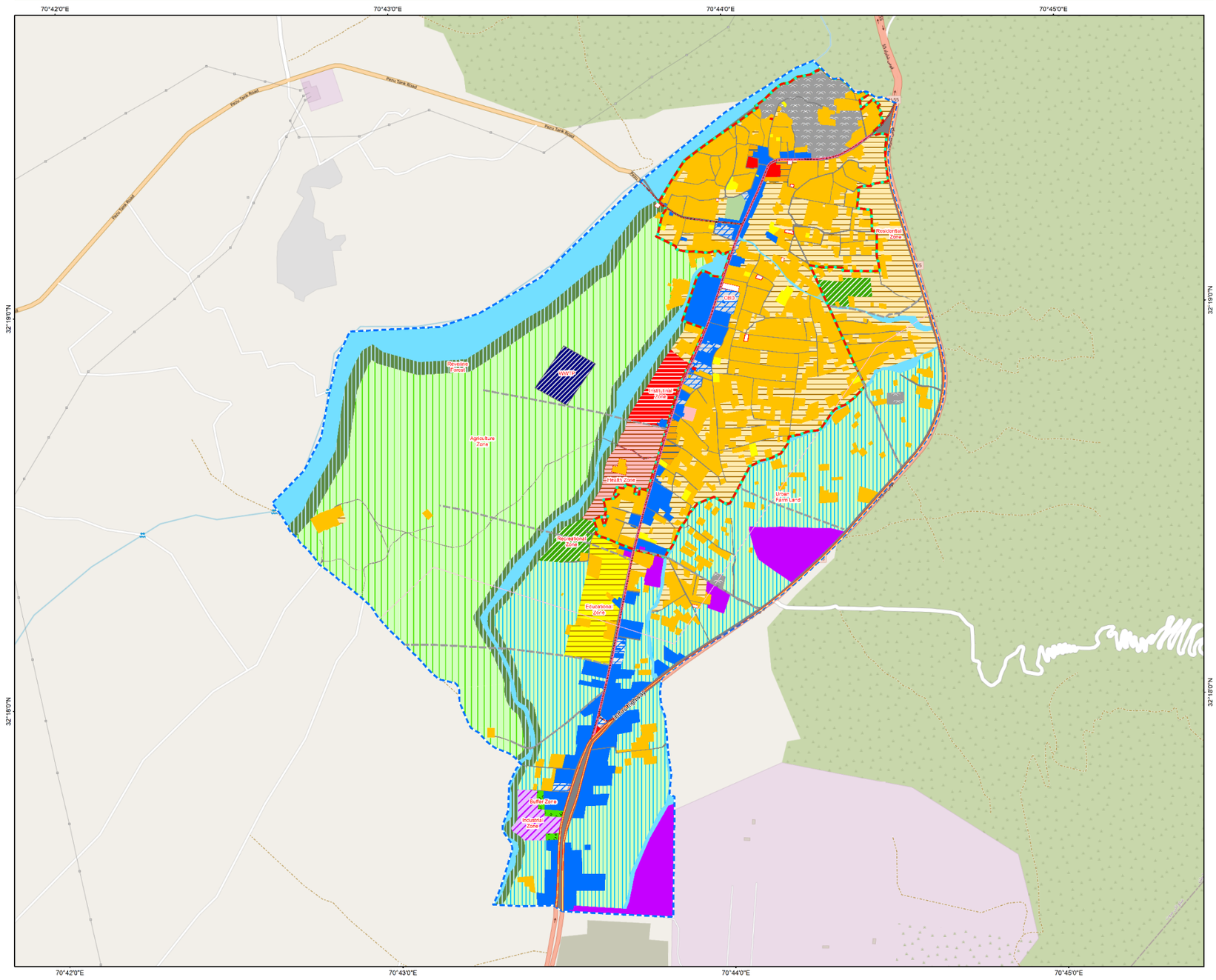
Table 3-15: Pezu Urban Proposed Zones

Planning Class	Total Area (Hectares)	%
Agriculture Zone	165.98	41.49
Buffer Zone	0.71	0.18
CBD	3.69	0.92
Educational Zone	9.29	2.32
Health Zone	7.40	1.85
Industrial Zone	3.34	0.84
Public Buildings	4.93	1.23
Recreational Zone	5.54	1.38
Residential Zone	53.52	13.38
Riverine Forest	33.08	8.27
Urban Farm Land	112.59	28.14
Grand Total	400.08	100.00

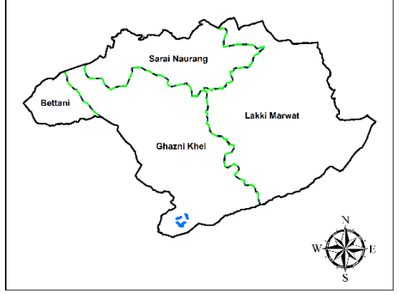
The draft land use plan for Pezu urban center shows a major restructuring to meet NRM standards and support organized growth. Residential land use rises to 24%, which is in between observed 24–50% range, indicating a strong focus on housing provision but necessitating future control over urban density. Industrial and institutional allocations, at 3% and 4% respectively, fall within NRM standards, supporting employment and public service needs. Commercial land use increases to 5% within observed range reflecting a strategy to boost local economic activities. Maximum 5% observed range of commercial landuse has been proposed due to presence of prominent Lucky Cement factory boosting local trade. Recreational spaces, at 1%, align well with livability goals.

The proposed zoning is shown below in **Map** followed by **Table** showing area statement of existing and proposed statistics of Pezu urban center.

PEZU URBAN CENTRE PROPOSED ZONES



Location Map



Legend

Administrative & Planning Boundaries

- Proposed Urban Boundary
- CBA
- NC/VC Boundaries

Landuse Classes

Existing Landuse

- Commercial
- Education
- Graveyard
- Health Facility
- Parks
- Public Buildings and Civic Amenities
- Religious Building
- Residential
- Residential and Commercial (Mixed Use)
- Scattered Industry
- Transportation
- Water Bodies

Proposed Landuse

- Agriculture Zone
- WWTP
- Buffer Zone
- CBD
- Educational Zone
- Health Neighbourhood
- Institutinal Zone
- Industrial Zone
- Residential Zone
- Recreational Zone
- Reverine Forest
- Urban Farm Land

Transportation Network

- Highway (N-55)
- Secondary Road

Proposed Roads

- Urban Road
- Improvement/Upgradation

Scale: 1:9,000

Scale: 0 0.225 0.45 0.9 Kilometers

District Lakki Marwat

Consultant: The Urban Unit

Client: Provincial Land Use Plan, Urban Policy & Planning Unit,P & DD, Government of KP

Map 3-8: Proposed Zones of Pezu Urban Center

Table 3-16: Pezu Urban Area Statement of Existing and Proposed Landuses

Planning Class	Existing	Area (hectares)	Proposed	Area (hectares)	Sum of Existing & Proposed	Landuse Percentages	NRM Percentages for Reference
Residential	Residential	103.54	Residential	53.52	157.06	**24%**	**24 - 50%**
	Residential and Commercial (Mixed Use)	1.86			1.86		
	Total	**105.40**	**Total**	**53.52**	**158.92**		
Commercial	Commercial	31.30	CBD	3.69	**34.99**	**5%**	**0.5 - 5%**
	Total	**31.30**	**Total**	**3.69**			
Institutional	Education	2.11	Educational	9.29	**25.37**	**4%**	**2-21%**
	Health Facility	0.34	Health	7.40			
	Public Buildings and Civic Amenities	0.69	Public Buildings	4.93			
	Religious Building	0.60					
	Total	**3.74**	**Total**	**21.62**			
Industrial	Scattered Industry	17.52	Industrial	3.34	**20.86**	**3%**	**2-20%**
	Total	**17.52**	**Total**	**3.34**			
Recreational/ Open Space	Recreation	0.94	Recreation	5.54	**6.48**	**1%**	**0.5-7 %**
	Total	**0.94**	**Total**	**5.54**			
Arterial Circulation/Terminals	Transportation	25.76	-	-	**25.76**	**4%**	**2-29%**
	Total	**25.76**					
Other Uses	Agriculture	84.68	Agriculture	165.98	**376.22**	**58%**	**-**
	Graveyard	11.55	Riverine Forest	33.08			
	Range Land	273.26	Urban Farmland	112.59			
	Vacant Area	42.24					
	Water Bodies	53.03					
	Total	**464.75**	**Total**	**311.65**			
	Grand Total	**649.4**	**Grand Total**	**400.1**	**648.6**	**100%**	

4. Legal Framework for Implementation of District Land Use Plans

A District Land Use Plan (DLUP) can only function effectively when supported by a well-defined legal and institutional framework. Such a framework ensures clarity regarding the roles and responsibilities of different actors, the standards to be applied, the procedures for obtaining planning permissions, and the consequences of non-compliance. Without this clarity, land use plans remain abstract documents with limited impact on actual development and regulation.

Within KP, DLUP are operationalized through various acts and regulations which include but not limited to the KP Land Use and Building Control Act, 2021, KP Local Government Act, 2013 (amended 2022), which defined administrative set up for its operationalization. Followed by Khyber Pakhtunkhwa Building Control Regulations 2024, Housing Schemes Regulations 2024, which directly enforce DLUP requirements at scheme and building levels. Following section details out the administrative and legal framework of the DLUP with implementation strategy for improvement.

4.1 Administrative and Institutional Framework

The governance and execution of the District Land Use Plan (DLUP) in Khyber Pakhtunkhwa (KP) is anchored in a **three-tier institutional structure** created under the **KP Land Use and Building Control Act, 2021**, supported by the **KP Local Government Act, 2013 (amended 2022)** and sectoral development regulations. The framework establishes a clear chain of responsibility spanning from the provincial policy-making level down to the local enforcement and service delivery level.

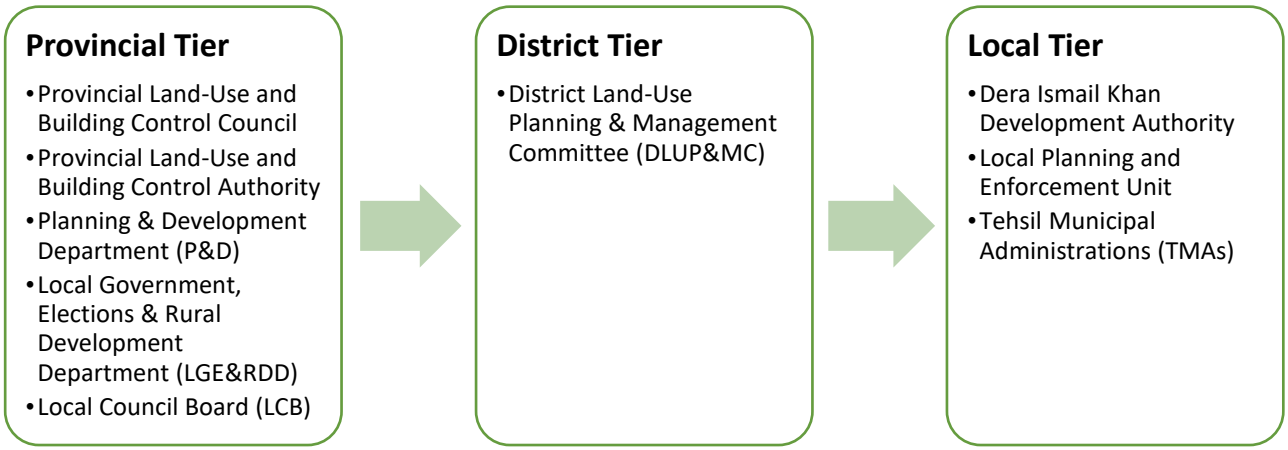


Figure 4-1: Administrative Setup of KP for DLUP Implementation

4.1.1 Provincial Tier - Policy and Regulatory Leadership

4.1.1.1 Provincial Land-Use and Building Control Council

The Khyber Pakhtunkhwa Land-Use and Building Control Act, 2021 establishes the Provincial Land-Use and Building Control Council, a key body responsible for overseeing land-use and building regulations. The Council is chaired by the Chief Minister of Khyber Pakhtunkhwa, with the Minister for Local Government, Elections, and Rural Development serving as the Vice Chairperson. The Council's membership includes various provincial ministers—such as those for Agriculture, Industries, and Environment—as well as senior officials from the Planning and Development Department, the Board of Revenue, and other government departments. Additionally, the Council features five experts, with at least three from the private sector, who are nominated by the Chairperson. The Director General (DG) of the Authority serves as Member-cum-Secretary. Co-opted experts may be invited without voting rights.

Mandate

a) approve policies and guidelines pertaining to the functioning of the Authority;
b) approve the urban policy, physical planning standards, land-use policy, guidance notes, etc. submitted to it by the Authority;
c) approve regulations made under this Act;

d) approve standards and guidelines for land use, zoning, and spatial planning;
e) approve any strategic or master plans;
f) approve district land-use plans, master plans, and any change or modification thereof;
g) approve annual budgets of the Authority, both current and development, and honorarium for the expert members from the private sector, at clause (q) of sub-section (1) of section 3;
h) create, abolish, and convert posts; fix salaries, allowances, and other perks and privileges for the officers and officials of the Authority;
i) conduct oversight of the plan preparations and their implementation under this Act;
j) give directions to the Authority, from time to time, for discharging its functions under this Act; and
k) perform any other function as may be assigned to it by Government or as it may deem appropriate under this Act.

4.1.1.2 Provincial Land-Use and Building Control Authority

The Act also establishes the Provincial Land-Use and Building Control Authority as a corporate entity with perpetual succession, capable of managing property, entering into agreements, and engaging in legal actions. The Council serves as the Board of Directors for the Authority, which is headquartered in Peshawar with the option to open sub-offices across the province. The Authority's actions are authenticated by the Director General, who is supported by the Urban Planning Policy Unit of the Planning and Development Department.

Directorate General

Led by the DG, the Directorate General:

a) propose physical planning standards. land-use. guidance noted etc. and recommend it to the Council for its consideration and approval;
b) recommend to the Council amendments in regulations, bye laws. regulatory instruments etc. for its consideration and approval;
c) ensure the development of master plans, strategic development plans. district land use plans, standards relating to building control or any other plans under this Act;
d) ensure implementation of the master plans, land-use plans or any other plans;
e) conduct, promote and coordinate research, in relation to different aspects of lands use, zoning and spatial planning and related matters;
f) publish documents, reports, statistics, monographs and other publications, relating to town and country planning and their methodology;
g) report to and advise the Council, upon matters in the conservation, use and development, classification and reclassification of land;
h) supervise, control and oversee the functions of the District Land- Use Planning and Management Committees; and

Additional responsibilities include tracking compliance with rules and regulations, recommending action against underperformance, and carrying out any other duties delegated by the Council to strengthen governance and expedite execution of the Authority’s mandate.

4.1.1.3 Planning and Development Department

The Planning and Development (P&D) Department of the Government of Khyber Pakhtunkhwa is the primary policy decision-making body in the field of development within the province. It holds a central role in the implementation and monitoring of the province's overall development plans. The department's responsibilities encompass various critical functions, including policy-making, project appraisal, implementation monitoring, and evaluation.

In terms of policy making, the P&D Department is responsible for formulating provincial and sectoral policies, setting priorities for projects based on resource requirements. It undertakes strategic planning for the provincial economy, ensuring long-term growth and sustainable development. Regarding project appraisal and approval, the department appraises and processes development projects and schemes, ensuring they align with provincial priorities and available resources. It plays a vital role in the approval process, including the compilation of the Annual Development Plan (ADP), allocation of funds, and recommendations for project approvals.

The department also oversees implementation and monitoring by monitoring the release of funds and managing inter-sectoral re-appropriation to ensure efficient implementation of development projects. It conducts continuous monitoring and evaluation of development schemes, including socio-economic

impact analysis, to assess the effectiveness and outcomes of projects. The P&D Department is responsible for formulating the Annual Development Plan, which outlines the development priorities and projects for the fiscal year. It manages provincial statistics, providing crucial data for informed decision-making and policy formulation.

In terms of foreign development assistance and coordination, the department coordinates foreign development assistance and manages relationships with international donors to secure funding and technical support for development projects. It processes and facilitates foreign training programs and visits for provincial officials to enhance their skills and knowledge. The P&D Department leads provincial representation in national development forums, ensuring that Khyber Pakhtunkhwa's interests are represented at the national level. It leads steering committees and project review boards (PRBs) for mega projects, providing strategic direction and oversight.

The department provides secretariat support to various key development bodies, including the Provincial Development Working Party (PDWP), Central Development Working Party (CDWP), Executive Committee of the National Economic Council (ECNEC), and the National Economic Council (NEC). Additionally, the P&D Department coordinates and implements the province's reforms agenda, ensuring continuous improvement in governance and development processes.

The Planning and Development Department of the Government of Khyber Pakhtunkhwa is instrumental in shaping the province's development trajectory. Through its comprehensive roles in policy-making, project appraisal, implementation monitoring, and evaluation, the department ensures the effective execution of development plans. Its leadership in coordinating foreign assistance, managing provincial statistics, and representing the province at national forums underscores its pivotal role in driving sustainable development and economic growth in Khyber Pakhtunkhwa.

4.1.1.4 Local Government, Elections and Rural Development Department

The Local Government, Elections, and Rural Development Department of Khyber Pakhtunkhwa is dedicated to meeting the specific needs of its citizens through local governance. The department implements the Khyber Pakhtunkhwa Local Government Act 2013 and its 2019 amendment, which were introduced by the provincial government to reform local governance. Along with implementation, the department is responsible for regulating and administrating to ensure that local governments within the province operate according to policy. The local government structure established under the 2013 Act includes City District Government, District Governments, Tehsil Municipal Administrations, Town Municipal Administrations, Village Councils, and Neighbourhood Councils.

The department's vision is to empower local governments to generate revenue and utilize development funds effectively to meet their administrative and infrastructural needs. This involves providing essential municipal services and infrastructure and aims to transform cities and towns into economic growth hubs, establish efficient governance mechanisms, address jurisdictional issues, and enhance the capacity of local governments.

The department's objectives include promoting local government institutions as a fundamental principle, decentralizing government administration to expedite public service delivery, and devolving political, financial, and administrative authority to elected local representatives. Strategic interventions focus on increasing citizen participation, aligning government and development partner commitments, clarifying the local government system, and setting up systemic arrangements and resource allocations to strengthen local governance. The department also aims to facilitate the exchange of experiences and lessons learned to improve governance practices.

Guided by the principles of integrity, innovation, and initiative, the department upholds high standards in public service delivery, ensuring responsiveness, transparency, and accountability. Innovation drives the department to seek unique solutions to the evolving challenges posed by urbanization, technological changes, and demographic shifts. An initiative is fostered through a proactive culture, utilizing resources effectively and sustainably for the welfare of Khyber Pakhtunkhwa's citizens.

Figure 1-2 below shows the detailed organogram of the Local Government, Elections, and Rural Development Department, it shows all the sections and subsections of the department.

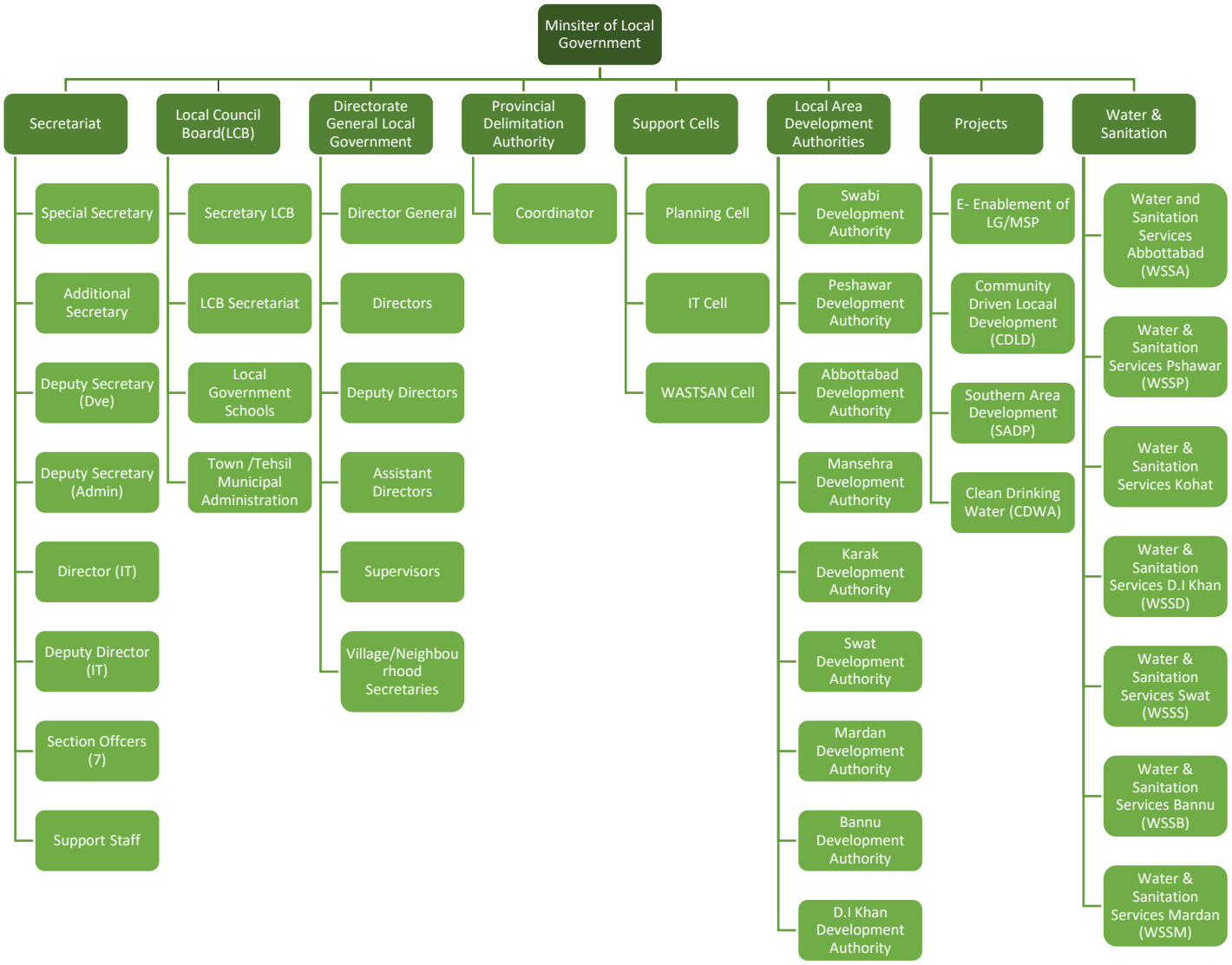


Figure 4-2: Local Government, Elections, and Rural Development Department Organogram

4.1.1.5 Local Council Board

The Local Council Board (LCB) is a semi-autonomous body established to manage all matters of the Tehsil Municipal Administration (TMA) in Khyber Pakhtunkhwa. Created under Section 46 of the NWFP Local Government Ordinance 1979, it has continued its functions with protections under the Local Government Ordinance 2001, Local Government Act 2012, and the Khyber Pakhtunkhwa Local Government Act 2013. The LCB is the successor of the defunct NWFP Local Government Board, originally established under the Basic Democracies Orders 1959 and the Municipal Administration Ordinance 1960.

The core function of the LCB is to manage various administrative services for personnel paid out of the Local Fund, including appointments, promotions, postings, transfers, and pensions. As an oversight and supervisory entity for the TMA, the LCB ensures effective service delivery in several key areas. These include zoning and master planning to regulate urban development, clean drinking water and sanitation services provision, and management of essential public safety services such as fire brigades.

Additionally, the LCB oversees the management of slaughterhouses, cattle fairs, and bus terminals, ensuring they operate efficiently and hygienically. It regulates building control to maintain construction standards and manages waste to ensure cleanliness in public areas. The Board also supervises the maintenance of food markets, fruit and vegetable markets, and trade licensing to facilitate orderly commerce. The LCB is responsible for the upkeep of parks and open spaces, providing recreational facilities for the public, and works to prevent encroachments to maintain orderly urban environments.

Through these comprehensive functions, the Local Council Board plays a vital role in enhancing local governance and service delivery, ensuring that the Tehsil Municipal Administrations operate effectively and serve the needs of the citizens of Khyber Pakhtunkhwa.

4.1.2 District Tier – Plan Preparation, Coordination, and Enforcement

4.1.2.1 District Land-Use Planning and Management Committee

The District Land-Use Planning and Management Committees (DLUP&MC) are constituted as institutional mechanisms to oversee and guide land-use governance at the district level in accordance with statutory provisions. Each committee is chaired by the Deputy Commissioner and comprises key departmental heads and representatives from local councils, with the Additional Deputy Commissioner (Finance and Planning) serving as both a member and the Secretary.

The committees are mandated to convene on a monthly basis or as required, with a two-thirds quorum necessary for proceedings. Their core functions include the facilitation and supervision of land-use surveys, zoning activities, strategic and master planning, and coordination with local government bodies. They are also responsible for reviewing no-objection certificates (NOCs), development permissions, and recommending land-use plans to the relevant Authority for approval.

(a) facilitate, coordinate and supervise conduct of surveys for the purpose of land uses and their zoning, master planning, strategic planning etc.;
(b) consult with the concerned local government on formulation and implementation of the district land-use plan or master plan;
(c) facilitate, coordinate and supervise formulation implementation of district land-use plans or master plan;
(d) send recommendations to the Authority and seek its approval on a case to case basis;
(e) monthly review of NOCs, issued by the concerned agencies, for land use and development permissions;
(f) take any action that is necessary to undo a violation including demolition or reconstruction of a building;
(g) stop a developer from development carried out in violation of the planning permission;
(h) change in land use being undertaken in violation of land use permission or without land use permission;
(i) receive and dispose of complaints under this Act:
(j) compile statistics and reports on land use and submit the same to the Authority; and
(k) perform any other duty or function as assigned by the Authority.

Additionally, the committees are empowered to take enforcement action against unauthorized developments and violations of approved land-use plans. The inclusion of co-opted members with technical expertise further strengthens the committee's capacity for informed decision-making. These provisions collectively promote a structured, accountable, and efficient approach to district-level land-use planning and management.

4.1.3 Local Planning Institutions – Implementation and Service Delivery

Local planning institutions play a critical role in the development, management, and sustainable growth of communities. They handle urban and regional planning, determining land use, and creating zoning regulations that dictate building types and activities in specific areas. Key responsibilities include ensuring affordable housing, promoting economic growth, and managing environmental sustainability through green spaces, renewable energy, and conservation efforts. They plan and maintain infrastructure like transportation systems and essential services such as water supply and sewage. Engaging with the public to gather input and ensure transparency is vital, as is enforcing building codes and issuing permits for construction activities. Data collection on population trends and economic conditions informs their planning decisions and forecasts future growth. They also collaborate with other governmental entities to ensure coordinated regional planning. Overall, these institutions shape the physical, economic, and social landscape of communities, ensuring development aligns with community goals and needs.

4.1.3.1 Dera Ismail Khan Urban Area Development Authority

The Dera Ismail Khan Urban Area Development Authority operates under the Khyber Pakhtunkhwa Urban Areas Development Authorities Act, 2020, which provides the legal framework for establishing development authorities across major urban centers in the province. Under this Act, the Authority is mandated to regulate and guide urban development within the Dera Ismail Khan urban area, ensuring organized growth, improved service delivery, and compliance with provincial planning and development standards. The Authority functions under the administrative control of the Government of Khyber

Pakhtunkhwa, with responsibilities related to urban planning, land development, and oversight of urban expansion.

Core Functions (as defined in the KP Urban Areas Development Authorities Act, 2020):

- Preparation, approval, and execution of development schemes for the urban area.
- Regulation and control of land use, building operations, and development activities within its jurisdiction.
- Acquisition, management, and disposal of land for public purposes, development schemes, and infrastructure projects.
- Provision and improvement of civic services, including roads, public amenities, open spaces, and municipal facilities.
- Collection of betterment fees, development charges, and other prescribed levies under the Act.
- Coordination with relevant provincial and local government departments to ensure integrated urban development.

Organizational Structure:

The organizational structure is designed to ensure efficiency and accountability. The Authority is headed by a Director General, who oversees various directorates and departments including:

- Planning and Development – responsible for spatial planning and urban design.
- Engineering – manages civil works and infrastructure development.
- Estate Management – deals with property allotment, asset management, and housing schemes.
- Finance and Administration – handles budgeting, personnel, and internal administration.
- Regulation and Enforcement – ensures compliance with building codes and zoning regulations.

4.1.3.2 Tehsil Municipal Administration

The Tehsil Municipal Administrations (TMAs) are crucial parts of the local government system, responsible for managing municipal functions and services at the tehsil level. They are established under various Local Government Acts and play a central role in ensuring effective local governance and service delivery within their respective areas. Each TMA is headed by an elected Tehsil Nazim (Mayor) and a council, with administrative support from a Chief Municipal Officer (CMO) and various departmental heads.

TMAs are responsible for planning and managing urban development within their tehsil. This includes preparing and implementing master plans, zoning regulations, and development schemes. They oversee land use, property development, and infrastructure projects to ensure orderly growth and sustainable urbanization. Managing key infrastructure such as roads, bridges, public buildings, and street lighting is also part of TMAs' responsibilities. They ensure that infrastructure projects meet quality standards and cater to the needs of the community.

In addition, TMAs provide essential public services such as water supply, sanitation, waste management, and drainage, aiming to deliver these services efficiently and effectively to uphold public health and quality of life. TMAs also enforce local regulations related to building codes, land use, and environmental standards. They oversee the issuance of permits and licenses for construction, business operations, and other activities, and monitor compliance with regulations to maintain safety standards. Furthermore, TMAs implement various community welfare programs and development initiatives, which may include health services, educational facilities, recreational areas, and social services. They actively work to improve residents' living conditions and support community development projects.

Financially, TMAs generate revenue through local taxes, fees, and charges and manage the allocated financial resources to ensure proper budgeting and expenditure for various municipal services and projects. Engaging with residents through meetings, consultations, and feedback mechanisms, TMAs facilitate public participation in local governance. They address public grievances and complaints related to municipal services, ensuring that community concerns are addressed promptly. TMAs also coordinate with provincial and federal government agencies, as well as non-governmental organizations, to implement development projects and provide services. They ensure that local initiatives align with broader government policies and objectives. Additionally, TMAs play a role in managing emergencies and disasters within their jurisdiction, being involved in disaster preparedness, response, and recovery efforts.

Overall, Tehsil Municipal Administrations (TMAs) serve as the cornerstone of local governance at the tehsil level, carrying out a range of functions essential for urban and rural management. By fulfilling these

functions, TMAs significantly contribute to the effective and efficient governance of local areas, addressing the needs of residents and supporting sustainable development.

4.1.3.3 Local Planning and Enforcement Unit (LP&EU)

As per Khyber Pakhtunkhwa Land-Use and Building Control Act 2021, the Local Planning and Enforcement Unit is established in each district to oversee land-use regulation and planning enforcement This Unit comprises a Chief Planning Control Officer (CPCO), Planning Control Officers (PCOs), Inspectors, and additional staff appointed by the government in consultation with the relevant authority. The CPCO is responsible for the administration and operational functions of the Unit and reports directly to the DLUP&MC. Moreover, the Chief Officer is required to maintain coordination with local governance bodies, including the Chairperson of the Tehsil Council, City Mayor, Tehsil Municipal Officer, Director of the Urban Area Development Authority, as well as Deputy and Assistant Commissioners. This inter-agency coordination ensures transparency and accountability, particularly in identifying and reporting deviations from approved land-use and master plans.

The Unit's primary responsibilities include supporting the DLUP&MC in conducting surveys and preparing district land-use and master plans. It is also tasked with ensuring the implementation of relevant legislative provisions within its jurisdiction. Furthermore, the regulation empowers the government to appoint PCOs and Inspectors as required, and to authorize other agencies or designated officials to perform these roles during the enforcement period of the Act. Overall, this chapter emphasizes a structured, collaborative, and compliance-driven approach to land-use governance at the district level.

4.1.4 RACI Framework

Since multiple statutes govern land use and development control in KP, different authorities are legally empowered to perform functions that often intersect. For example, the KP Land Use and Building Control Act 2021 vests plan preparation and enforcement powers in the Council, Authority, and DLUP&MC; the Local Government Act 2013/2019 assigns municipal regulatory powers to TMAs. This fragmented legal landscape results in overlapping jurisdictions, parallel approval mechanisms, and weak accountability.

To simplify this, a **RACI framework has been adapted to RAC**. The “Informed (I)” category has been deliberately excluded, as passive information-sharing does not create enforceable obligations in the context of DLUP implementation. The focus is therefore on three binding functions:

- **Accountable (A):** the authority legally mandated to take final decisions under statute and answerable for outcomes (only one per function).
- **Responsible (R):** the institution tasked with executing technical or operational work; multiple actors may be responsible.
- **Consulted (C):** statutory or sectoral stakeholders whose clearance or input must be obtained before action is finalized.

Adapted RACI framework for implementation of DLUP is as follows:

Table 4-1: Adapted RAC Framework

Function	Council	Authority/ DG	DLUP&MC	TMA/ Development Authority / LP&EU	EPA/ Line Depts
Development of planning standards	A	R	C	C	C
Approve DLUP	A	R	A	C	C
Change in Land use*	A	C	A/R	R	C

Permit Issuance*	-	C/A	A/R	A/R	-
Inspections*	-	C	A/R	A/R	C
Enforcement*	-	A/R	A/R/C	A/R	C

A=Accountable, R=Responsible, C=Consulted

Functions marked with an asterisk (*) represent those domains where statutory mandates overlap and multiple authorities exercise partial jurisdiction under different laws and regulations. These include Change in Land Use, Permit Issuance, Inspections, and Enforcement, which are the most operationally sensitive aspects of DLUP implementation.

- For **Change in Land Use**, the KP Land Use and Building Control Act 2021 vests powers in the District Land Use Planning & Management Committee (DLUP&MC), but certain high-order changes require endorsement from the Provincial Council. TMAs and Development Authorities retain a role in forwarding applications and verifying compliance on the ground. This creates a dual chain of accountability that can lead to conflicting interpretations unless harmonized through standard operating procedures.
- For **Permit Issuance**, the Building Control Regulations 2024 designate TMAs and Development Authorities as the primary permitting agencies, while DLUP&MCs and the Authority are engaged in technical vetting for conformity with DLUP zoning. This multi-layered approval system results in joint accountability (A/R) entries in the table, indicating that no single institution exercises exclusive control.
- For **Inspections**, responsibility is distributed between TMAs/LP&EU as the frontline enforcement arms, DLUP&MCs for district-level oversight, and the Authority for technical audit. EPA and line departments are consulted for sector-specific compliance, such as environmental, irrigation, or heritage clearances. The absence of a single accountable body highlights the need for an integrated inspection protocol to avoid duplication and gaps.
- For **Enforcement**, statutory authority is fragmented: DLUP&MCs are accountable for ensuring conformity with DLUP zoning, TMAs/LP&EU are responsible for executing stop-work orders, sealing, or demolition, and the Authority provides legal and administrative backing. EPA and line departments intervene where sectoral conditions are breached. Because coercive action often faces political and legal challenges, overlapping mandates in this function pose the highest risk of institutional conflict.

This adapted RACI framework transforms fragmented statutory powers into a clear chain of authority. By explicitly defining accountability, responsibility, and consultation for each function, it minimizes overlaps, closes gaps in enforcement, and ensures that all DLUP-related actions remain both legally defensible and technically sound. The framework therefore provides a practical mechanism for coordinating provincial, district, and tehsil-level institutions in the effective implementation of District Land Use Plans.

4.2 Existing Rules and Regulations for Planning in Urban and Rural Areas

Khyber Pakhtunkhwa has a structured framework of rules and regulations governing urban and regional planning to ensure sustainable development, efficient land use, and the provision of civic amenities. These regulations are designed to guide the planning, development, and management of urban and regional areas within the province. The key legislative and regulatory instruments in Khyber Pakhtunkhwa for planning in urban and rural areas include the following:

4.2.1 Khyber Pakhtunkhwa Building Control Regulations 2024

The Khyber Pakhtunkhwa Building Control Regulations 2024 serve as the operational backbone of the KP Land Use and Building Control Act 2021. While the Act creates the authority and mandate, these Regulations set the detailed processes through which buildings are designed, approved, monitored, and

enforced across the province. Their role is to translate the District Land Use Plans from a strategic vision into enforceable rules that guide development at the plot and building scale.

The Regulations apply province-wide, binding individuals, developers, and institutions in both urban and rural notified areas. They cover the full cycle of development: application, scrutiny, permitting, inspection, completion, and occupancy. In practice, this means no structure can be legally raised or occupied without going through these prescribed steps.

Procedurally, they standardize development and building permits, specifying required documents, timelines, and fees. They set subdivision and plot standards, right-of-way widths, and land reservations for social facilities and utilities. At the building level, they regulate setbacks, heights, FAR, parking, seismic and fire safety, accessibility, and environmental safeguards. Contemporary needs are addressed through provisions for high-rises, mixed-use buildings, and hazard-prone areas. Enforcement mechanisms include staged inspections, mandatory occupancy certificates, sealing or demolition of unauthorized works, penalties on violators and professionals, blacklisting of repeat offenders, and utility restrictions for non-compliant projects. Appeals are available at district or provincial level. The Regulations' main strengths are their direct alignment with DLUP zoning, their focus on hazard-sensitive design and fire safety, their link between planning approvals and utility clearances, and their inclusive features like universal accessibility.

Despite these strengths, challenges remain. TMAs and districts face limited technical capacity, especially for structural vetting and enforcement. Political interference and weak inspectorates reduce the impact of penalties. Heavy reliance on manual submissions allows delay and corruption to creep in.

Areas for improvement include:

- Digitizing the permitting and inspection process, with GIS integration to automatically check applications against DLUP zoning and hazard overlays.
- Building technical capacity in TMAs and districts, especially in structural safety, environmental compliance, and legal enforcement.
- Clarifying rules on compounding to prevent regularization of serious violations, especially in floodplains, ROWs, or hazard zones.
- Introducing performance bonds and phased serviceability requirements for large developments, ensuring infrastructure delivery before occupation.
- Publishing permits, violations, and enforcement actions online to reduce discretion, increase transparency, and build public trust.

Overall, the 2024 Regulations are a strong step toward standardizing development control in Khyber Pakhtunkhwa. They make DLUPs enforceable, improve safety, and set clear rules for growth. The challenge now is building the institutional capacity and digital systems to enforce them consistently and transparently across districts.

4.2.2 Khyber Pakhtunkhwa Housing Schemes (Planning, Development and Control) Regulations 2024

The Khyber Pakhtunkhwa Housing Schemes (Planning, Development and Control) Regulations 2024 establish the statutory framework for the preparation, approval, development, and monitoring of housing schemes within the province. They operationalize the KP Land Use and Building Control Act 2021 by defining technical standards, developer obligations, and enforcement mechanisms necessary for regulating private and public sector housing development. Their scope extends to new housing schemes, extensions to existing schemes, and regularization of unauthorized layouts, provided such regularization conforms to notified land-use designations under the District Land Use Plan (DLUP).

Key features of the Regulations include a structured approval process requiring proof of ownership, master layout plans, utility designs, and environmental assessments where applicable. Proposals are vetted by TMAs and cleared by the DLUP&MC, with final approval dependent on DLUP zoning, infrastructure capacity, and planning standards. Technical requirements cover minimum plot sizes, FAR, density limits, land reservations for social facilities, and phased development to ensure serviceability before sales. Developers must provide internal infrastructure at their own cost, transfer reserved land to authorities, and submit performance guarantees tied to completion. Enforcement provisions empower authorities to halt or demolish unauthorized schemes, blacklist violators, restrict utility services to unapproved projects, and conduct staged monitoring, with appeal rights available at district and provincial levels.

The regulations' strengths lie in embedding DLUP zoning as a binding criterion, ensuring provision of social facilities, requiring performance guarantees, and protecting consumers by criminalizing unapproved scheme marketing. However, gaps persist: weak technical capacity at TMA and DLUP&MC levels undermines scrutiny and monitoring, reliance on manual submissions increases risks of delay and malpractice, and regularization provisions may inadvertently encourage violations. Political interference weakens enforcement, while hazard-sensitive planning such as flood risk management, seismic safety, and slope stability is insufficiently integrated. Following recommendations can be followed to further strengthen these regulations especially in terms of DLUP:

- Digitize the permitting and approval system with GIS integration for automatic checks against DLUP layers and hazard zones.
- Strictly enforce phasing and performance bond requirements, prohibiting sale or transfer of plots before infrastructure delivery.
- Narrow the scope of regularization, excluding hazard-prone and environmentally sensitive areas.
- Establish a public online portal of approved schemes to enhance consumer protection.
- Build technical capacity of TMAs and DLUP&MCs in planning, engineering, and enforcement, with strong provincial oversight.
- Integrate climate resilience standards, including flood risk zoning, seismic safety, and slope stability, into the regulatory framework.

For DLUPs, these Regulations are indispensable, making density targets, facility reservations, and zoning protections enforceable at the scheme level. Proper implementation can prevent sprawl, safeguard critical land uses, and deliver serviced, resilient housing.

4.2.3 Khyber Pakhtunkhwa Urban Policy 2023

The Khyber Pakhtunkhwa Urban Policy 2023 is a strategic framework aimed at fostering sustainable urban development throughout the province. It addresses the complex challenges faced by urban areas while enhancing the quality of life for residents. The policy outlines detailed guidelines for urban planning, focusing on sustainable growth, inclusivity, and economic development.

The primary goal of this policy is to promote organized and sustainable urban expansion. It emphasizes strategic land use and floor area planning, ensuring that growth aligns with environmental and community needs. A significant aspect of the policy is the promotion of affordable housing, ensuring that urban development initiatives are inclusive and accessible to all social segments. The policy also prioritizes economic and real estate development as key drivers of urban prosperity.

A major focus is placed on improving municipal services and overall urban livability. This includes effective traffic management strategies to enhance mobility and reduce congestion. The policy also aims to boost tourism, particularly in cities and the northern zone, contributing to broader economic goals. To ensure successful implementation, the policy stresses the importance of building institutional capacity and developing long-term city management strategies.

However, the Khyber Pakhtunkhwa Urban Policy 2023 faces several challenges. Ensuring adherence to legal and regulatory frameworks is difficult, requiring strong enforcement mechanisms. Balancing economic growth with environmental sustainability is also a critical issue, as urban expansion must be ecologically responsible. The policy's success depends on inclusivity and meeting the diverse needs of urban populations. Long-term monitoring and evaluation mechanisms are necessary but require ongoing resources and support. Additionally, consistent political and administrative backing is crucial for the policy's effective implementation.

In summary, the Khyber Pakhtunkhwa Urban Policy 2023 sets a comprehensive and strategic direction for sustainable urban development. By focusing on key areas like land use planning, affordable housing, economic development, and improved municipal services, the policy aims to create inclusive, livable, and sustainable urban environments. Despite the challenges of enforcement, sustainability, and inclusivity, it provides a robust framework for guiding the future growth of urban areas in the province.

4.3 Institutional Gaps and Implementation Strategy

Despite the presence of a legislative and administrative framework for land use planning at the provincial and district levels, effective implementation remains hindered by several institutional shortcomings. Key challenges include limited technical and human resource capacity, poor inter-agency coordination, weak monitoring and enforcement mechanisms, and minimal stakeholder engagement. Local planning units

often operate without qualified professionals such as urban planners and GIS experts, leading to delays in plan preparation, poor compliance, and ineffective development control. Fragmented mandates, cumbersome regulatory processes, and lack of data-sharing protocols further exacerbate inefficiencies and duplication of efforts.

4.3.1 Institutional Gap Analysis and Actionable Mechanisms

To address these issues, a set of targeted, actionable mechanisms has been developed to strengthen institutional performance and bridge the gap between planning and implementation. These include establishing formal coordination bodies, implementing training programs, introducing GIS-based monitoring tools, reforming regulatory procedures, and creating participatory platforms for community engagement. The following table outlines the key institutional gaps and corresponding strategies designed to enhance accountability, coordination, and responsiveness in the planning system.

Table 4-2: Gap Analysis and Proposed Mechanism

Identified Gap	Detailed Description	Proposed Mechanism / Action Plan	Responsible Institutions
Ambiguous Regulatory Roles and Overlaps	Institutional mandates are sometimes overlapping or undefined, resulting in confusion over responsibilities (e.g., plan approval vs enforcement).	• Revise and harmonize regulations to clearly demarcate roles. • Issue standard operating procedures (SOPs) for plan review, approval, and monitoring. • Set up grievance handling protocols for inter-agency disputes.	Provincial Land-Use and Building Control Council, Provincial Land-Use and Building Control Authority, any other related department/ authority
Fragmented Inter-Agency Coordination	Agencies at provincial, district, and tehsil levels often operate in silos with unclear communication and reporting lines. This leads to duplication of work and conflicting decisions in planning and enforcement.	• Establish formal coordination committees at each level. • Conduct quarterly inter-departmental coordination meetings. • Develop shared digital dashboards for real-time data sharing.	DLUP&MC, any other related department
Inadequate Institutional Capacity	District and tehsil-level units often lack adequately trained urban planners, GIS experts, data analysts, and enforcement officers, limiting the quality and timeliness of plan implementation.	• Launch mandatory training & certification programs for planning staff. • Hire technical staff through P&D-led recruitment. • Allocate dedicated funds for technical equipment and planning software.	P&D Department, any other related department
Weak Monitoring and Enforcement System	Lack of real-time monitoring tools and irregular site inspections lead to unauthorized developments going unchecked.	• Integrate GIS-based monitoring systems. • Schedule routine and surprise inspections. • Publish quarterly compliance and enforcement reports. • Establish citizen complaint response mechanisms.	TMA, LP&EU, any other related department
Obsolete Land Use Data and Delayed Updates	Land use plans are often based on outdated or incomplete data, and there is no structured timeline for their periodic review.	• Make five-year plan revision mandatory by regulation. • Institutionalize data collection using satellite imagery and public surveys. • Create a rolling update mechanism at the district level.	DG of Authority, DLUP&MC, LP&EU, Urban Planning Policy Unit, any other related department
Limited Community Engagement and Public Awareness	Citizens remain unaware of land-use regulations, their responsibilities, or the grievance redressal	• Launch public education campaigns (radio, TV, social media, town halls).	DLUP&MC, LG Department, Communication & Outreach Unit, any

Identified Gap	Detailed Description	Proposed Mechanism / Action Plan	Responsible Institutions
	mechanisms available to them.	• Establish digital portals for plan access and feedback. • Form citizen advisory groups for plan reviews.	other related department
Lack of Specialized Technical Input in Decision-Making	Strategic decisions are often made without input from subject experts, resulting in plans that may lack technical depth.	• Form Expert Advisory Panels with GIS, climate, transport, and housing experts. • Involve academia and research institutes in plan review stages. • Institutionalize co-opting of experts in District Committees.	Provincial Council and Authority, DLUP&MC, P&D Experts Pool, any other related department
Insufficient Funding for Implementation	Planning and enforcement units face budgetary constraints that affect staffing, technology adoption, and project execution.	• Introduce dedicated development and enforcement budget lines. • Mobilize funding through betterment charges and public-private partnerships (PPPs). • Explore federal and donor funding for capacity building.	Finance Dept., P&D, District Governments, any other related department
Weak Legal Enforcement and Appeal Mechanisms	Legal processes for penalizing violations or resolving appeals are often slow and cumbersome, reducing the credibility of enforcement.	• Strengthen the Appellate Tribunal with adequate staffing and infrastructure. • Simplify and digitize appeal filing processes. • Publicly disclose tribunal decisions to ensure transparency.	Appellate Tribunal, Law Department, Provincial Authority and Council, any other related department
Disconnected Infrastructure Planning	Land-use decisions are not always aligned with utility and transport infrastructure planning, creating long-term inefficiencies.	• Mandate joint planning between land-use and infrastructure agencies. • Require infrastructure feasibility reports with all major land-use changes. • Create integrated spatial development models.	LG & Public Health Engineering, Transport Department

The legal framework for DLUP implementation provides a comprehensive statutory and institutional foundation. It links provincial policy-making with district-level planning and local enforcement through a coordinated chain of authority, further clarified by the adapted RACI framework. The integration of supporting regulations including building control, housing schemes, and urban policy, strengthens enforceability at both scheme and plot levels. However, effective outcomes will depend on addressing institutional gaps, particularly by enhancing technical capacity, embedding hazard and climate resilience standards, ensuring citizen engagement, and digitizing monitoring and permitting systems. With these improvements, the framework has the potential to transform DLUPs from policy documents into binding instruments for orderly, resilient, and transparent land-use governance across the province.